

INTERNALIZED HETEROSEXISM AND SAME-SEX ATTRACTION
AS PREDICTORS OF SEXUAL ORIENTATION IDENTITY

By

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Abstract

Lesbian, gay and bisexual (LGB) individuals in America continue to face discrimination and prejudice. As a consequence, many LGB individuals internalize negative thoughts and feelings about homosexuality, known as internalized heterosexism (IH). However, the conceptualization of IH as an LGB exclusive construct may be too narrow. If sexual orientation is viewed on a continuum, it is possible that individuals who express same-sex attraction may also possess some degree of IH even though they do not identify as LGB. The study investigated the factor structure of a new scale developed to measure IH with any individual expressing same-sex attraction regardless of sexual orientation identity. The Personal Internalized Heterosexism Scale (PIHS) was completed by 242 participants who expressed having, at least once, physical or sexual attraction to the same-sex. Confirmatory factor analyses showed three factors best represented the data, Negative Affect, Positive Affect and Acceptance. Bivariate correlations were then conducted to examine the relationship between the three components of IH and psychological distress, well-being, self-esteem, and sexual identity development. Higher levels of negative affect were correlated to higher levels of psychological distress and lower levels of life satisfaction, sexual identity development. Higher levels of positive affect and acceptance were correlated to higher levels of sexual identity exploration, commitment, and synthesis. A one-way between subjects Multiple Analysis of Variance explored differences in the three components of IH by sexual orientation identity. Questioning, heterosexual, and bisexual individuals reported higher levels on at least one component of IH compared to lesbian/gay individuals. Lastly, the study explored whether the three components of IH mediated the relationship between same-sex attraction and sexual orientation identity. Implications, limitations and future directions to the current study are discussed.

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Chapter I

Introduction

Recent media coverage of lesbian, gay, and bisexual (LGB) teen suicide and the work of the Trevor Project's "It Gets Better" campaign, created to show LGB teens that their lives can be fulfilling, have increased public awareness and brought the struggles of LGB youth into greater awareness. However, it is not only LGB youth that are faced with difficulties in American society, but LGB individuals in general who are discriminated against and, as a consequence, are not afforded the same rights as their heterosexual counterparts. For example, under current Kansas law, sexual activity between members of the same-sex is considered criminal activity (Rothschild, 2011) and it is legal in 29 states for employers to discriminate based on sexual orientation ("Employment Non-Discrimination Act | Federal Advocacy," n.d.). Though some progress has been made in the United States with the recent repeal of "Don't Ask Don't Tell," LGB individuals remain members of a stigmatized group and are frequently faced with messages that their sexual orientation is morally wrong and unacceptable to society. Consequently, many LGB individuals have internalized these negative societal messages causing them to feel ashamed of their homosexuality or to believe their lives cannot be as fulfilling as heterosexuals.

The negative thoughts and feelings that LGB individuals have about homosexuality are known as *internalized heterosexism* (IH; Szymanski, Kashubeck-West, & Meyer, 2008). Past studies have found that for LGB individuals, IH is positively correlated with substance use (Amadio, 2006), depression (Herek, Cogan, & Gillis, 1998; Shidlo, 1994), difficulties in relationships (Frost & Meyer, 2009), and negatively correlated with self-confidence (Shidlo, 1994). Psychologists often see individuals in therapy for all of the aforementioned concerns; however, without knowledge of the role that internalized heterosexism may play, psychologists

may overlook this important factor impacting their LGB clients' well-being. As LGB individuals access psychotherapy at a rate of at least twice that of the heterosexuals (Perez, DeBord, & Bieschke, 2000), it is very likely that most psychologists will work with LGB individuals whether to their knowledge or not.

It is important to note that because of the pervasive societal nature of heterosexism; internalized heterosexism is most likely not limited to LGB individuals (Bieschke, 2008). Individuals who are questioning their sexual orientation and those who currently identify as heterosexual may experience IH when they are attracted to the same-sex. In the current study, *same-sex attraction* is defined broadly as including emotional, physical, and/or sexual attraction. Individuals experiencing a high degree of same-sex attraction may not identify as LGB for fear they will be placed in the disadvantaged position of the sexual minority (Frost & Meyer, 2009). *Sexual orientation* refers to “an enduring emotional, romantic, sexual or affectional attraction to [(an)other person(s)]...that ranges from exclusive homosexuality to exclusive heterosexuality and includes various forms of bisexuality” (American Psychological Association, 1998). *Sexual orientation identity* is the inward or outward conscious claiming or acceptance of one's sexual orientation (Worthington, Savoy, Dillon, & Vernaglia, 2002).

Past research has provided support for the link between IH and the degree of self-disclosure of one's sexual orientation. Higher levels of IH are related to less disclosure (Herek et al., 1998), more conflict concerning sexual orientation (Szymanski, Chung, & Balsam, 2001), greater self-identification as heterosexual despite being attracted to the same-sex (Nungesser, 1983), and lack of membership in a LGB group (Ross & Rosser, 1996). Thus, internalized heterosexism may cause a disconnect between an individual's *sexual orientation* and *sexual orientation identity* for anyone experiencing same-sex attraction, which in turn may negatively

impacts individuals' abilities to fully accept themselves creating psychological distress and self-esteem concerns (MacInnes, 2006).

Though there are numerous studies examining internalized heterosexism in LGB individuals (Amadio, 2004; Chung & Szymanski, 2006; Kashubeck-West & Szymanski, 2008; Szymanski & Kashubeck-West, 2008), an extensive literature review has not yielded a study examining whether internalized heterosexism is present in individuals who do not identify as LGB. As Bieschke (2008) suggests, internalized heterosexism may not be limited to LGB individuals but may affect other individuals to some extent. By expanding sampling to include individuals who do not identify as LGB but experience same-sex attraction, the current study investigated whether there is data to support this question.

Past studies examining internalized heterosexism have sought participants from LGB resources, groups, and listservs (Amadio, 2004; Chung & Szymanski, 2006; Kashubeck-West & Szymanski, 2008; Szymanski & Kashubeck-West, 2008) and, not surprisingly, have found that these participants have low, often positively skewed, levels of internalized heterosexism (Balsam & Mohr, 2007; Moradi, van den Berg, & Epting, 2009; Szymanski & Kashubeck-West, 2008). While the results of these studies are important, they likely do not generalize to LGB individuals with low levels of sexuality-specific support or who are less strongly identified or committed to their LGB identity. Low levels of sexuality support and disclosure are linked to lower levels of overall mental health and higher levels of IH (Dew, Myers, & Wightman, 2005), and it is these individuals who often present for counseling rather than individuals who are well-connected to the LGB community and comfortable with their sexual orientation identity. The current study minimized the selection bias for participants that have higher levels of sexuality-

specific support and higher levels of sexual orientation disclosure by seeking participants from a variety of sources rather than seeking participants from LGB-specific sources.

Whereas past studies examining internalized heterosexism have used participants averaging 31-38 years in age (Amadio, 2006; Balsam & Mohr, 2007; Frost & Meyer, 2009; Kashubeck-West & Szymanski, 2008; Szymanski & Chung, 2003), college-aged students who are just beginning to identify and disclose their sexual orientation (Herek et al., 1998) are likely to differ in their current experience of IH from those who have identified as LGB for 10 to 20 years. As *emerging adults* (Arnett, 2000), college and graduate students are engaging in identity exploration as it relates to love, work, and their worldviews. Thus, for a younger demographic, sexual identity development and experience of heterosexism is likely more dynamic and intense than for an older, more stable, and established demographic. For this reason, the current study examined a younger college-aged population of LGB, questioning, and heterosexual students experiencing same-sex attraction who are likely less developmentally stable and less “out” than previous samples. As psychologists it is important to strive to understand effects of stigma and its various manifestations in the lives of LGB (American Psychological Association, 2012) and it was hoped going into this study that its results might contribute to knowledge of internalized stigma and help guide psychological intervention and advocacy.

Purpose

The purpose of this study was to (a) examine the factor structure of a new scale developed to measure internalized heterosexism with any individual expressing same-sex attraction regardless of sexual orientation identity (b) examine the relationship between internalized heterosexism (as assessed using this new measure) and the constructs of psychological distress, well-being, self-esteem, and sexual identity development (c) examine

differences in internalized heterosexism based on sexual orientation identity and (d) examine the relationship between internalized heterosexism, sexual orientation and sexual orientation identity.

Research Questions and Hypotheses

In light of the aforementioned findings, the research examined the following four questions.

Question I. What is the factor structure for a new scale measuring personal internalized heterosexism scale?

Hypothesis I. No hypothesis was made with regard to the factor structure of a new scale for measuring personal internalized heterosexism, as previous literature does not exist to support a hypothesis.

Question II. What is the relationship between internalized heterosexism, psychological distress, life-satisfaction, self-esteem, and sexual identity development?

Hypothesis II. It was hypothesized that internalized heterosexism would be positively correlated with psychological distress.

Hypothesis III. It was hypothesized that internalized heterosexism would be negatively correlated to life-satisfaction, self-esteem, sexual identity development.

Question III. To what degree do individuals with same-sex attraction who do not identify as LGB experience internalized heterosexism?

Hypothesis IV. It was hypothesized that participants who identified as heterosexual or questioning and expressed same-sex attraction would report higher levels of internalized heterosexism than those who identified as LGB.

Question IV. What is the relationship between internalized heterosexism, same-sex attraction, and sexual orientation identity?

Hypothesis V. It was hypothesized that internalized heterosexism would mediate the relationship between same-sex attraction and sexual orientation identity.

Summary

Societal stigma surrounding same-sex attraction continues in America today and as a consequence is often internalized by LGB individuals. Past studies indicate that internalized heterosexism has a number of negative consequences for LGB individuals such as lower psychological, physical, and interpersonal well-being. However, most of these studies are conducted with older LGB individuals who have disclosed their sexual orientation identity and are well connected to the LGB community. Furthermore, little is known with regard to the internalized heterosexism that questioning and heterosexual individuals with same-sex attraction may possess. The current study investigated the degree to which any individual with same-sex attraction may have internalized heterosexism in a developmentally younger and less “out” population than has been previously examined. The relationship between internalized heterosexism and other key variables of interest (psychological distress, well-being, self-esteem and sexual identity development) was also examined. As psychologists it is important to understand how these psychological processes affect all clients so they may be appropriately addressed and discussed in therapy.

Chapter II

Literature Review

This chapter begins with an overview of definitions of sexual orientation, sexual identity, and sexual orientation identity and reviews considerations in measuring these important demographic variables. Sexual orientation identity models are subsequently examined. Next, internalized heterosexism measures are presented. Finally, this section concludes with an overview of the empirical research investigating the role internalized heterosexism plays on LGB psychological distress, well-being, self-esteem, and sexual identity development.

Sexual Orientation, Sexual Orientation Identity, and Sexual Identity.

Definitions. The American Psychological Association (1998) defines *sexual orientation* as “an enduring emotional, romantic, sexual or affectional attraction to [(an)other person(s)]...that ranges from exclusive homosexuality to exclusive heterosexuality and includes various forms of bisexuality.” *Sexual orientation identity* is a more specific term that refers to the inward or outward consciousness of one’s sexual orientation. *Sexual identity* encompasses the broadest dimensions of human sexual behavior, and refers to sexual needs, values, mores, behaviors, preferred sexual activities and sexual expression, including sexual orientation identity (Worthington et al., 2002).

Challenges. Researchers are faced with many challenges in sampling from the population of individuals with an LGB sexual orientation identity. One of these challenges is that there are those who will answer at one point in time that they are not LGB, but will later identify an LBG (Meyer & Wilson, 2009). For example, in Savin-Williams and Diamond (2000) two-year longitudinal study, one-third of 16-23 year old women changed their sexual orientation identities from the first interview. However, other studies provide competing data with regard to sexual

orientation stability. Another is that, LGB individuals have much to lose from disclosing their sexual minority status and may not be willing to disclose their identity to researchers unless their confidentiality can be assured. And yet a third is that characteristics about the LGB population as a whole in the U.S. cannot be described since U.S. Census excludes information on sexual orientation identity (Meyer & Wilson, 2009). In spite of these challenges, several studies over the past two decades help shed light on the complexity involved in researching sexual minorities and in measuring sexual orientation.

Sexual orientation. Several recent studies examine sexual orientation by asking participants about their degree of same-sex attraction and same-sex sexual experiences. A randomized national survey was conducted with 2287 adults (ranging in age from 18-45 years). Participants who responded to the survey using a telephone computer-assisted self-interviewing method were 1.5 to 1.6 times more likely to report same-sex sexual attraction than participants interviewed with traditional telephone interview methods (Villaruel et al., 2006). The study found that 20.3% of females reported same-sex sexual attraction and 16.2% reported same-sex sexual experience, markedly higher than males who reported 11.9% and 9.1% respectively. Based on the study, which highlights the difference that participant confidentiality and anonymity can make when studying sensitive topics such as sexual orientation, the National Sexually Transmitted Disease and Behavior Measurement Experiment estimates that 16.1% of the population reports some same-sex sexual attraction, and 12.6% of the population reports some same-sex sexual experience. Demographic information with regard to sexual orientation identity was not provided in this national study; however, other LGB specific studies help to provide further detail about same-sex attraction.

Similar to the gender differences in the findings of Villarroel et al. (2006), Savin-Williams and Diamond (2000) found differences between males and females with regard to same-sex sexual and emotional attraction, physical attraction was not examined. Participants in the study were 78 women and 86 men (ranging in age from 17 to 25) who were recruited through a community newsletter for sexual minorities, Internet list-serves for sexual minority students and through college classes on gender and sexuality. Participants were interviewed by phone or in person and asked about their earliest memories of same-sex attraction and their current feelings about their sexual identity. The study found that 69% of men identified their first same-sex attraction as sexual in nature compared to 44% of females. Further highlighting gender differences, 7% of males identified their first same-sex attraction as emotional and nature compared to 40% of females (Savin-Williams & Diamond, 2000).

In a more recent study, Moradi and her colleagues (2010) surveyed 178 participants who had been recruited from LGB-affirming venues and organizations with regard to their sexual behavior and physical and emotional attraction. The participant ranged in age from 18 to 73 years ($M = 30.0$, $SD = 13.0$). In terms of physical and emotional attraction, LGB participants reported high levels of physical attraction (4.73 on a 5 point Likert-scale) and emotional attraction (4.63 on a 5 point Likert-scale) to their own gender, and low levels of physical attraction (1.72 on a 5 point Likert-scale) and emotional attraction (1.94 on a 5 point Likert-scale) to the other gender. Although attraction to another is associated with positive feelings and a desire to become closer to that individual, the emotions and actions following same-sex attraction are often complicated by life in a heterosexist society.

Sexual orientation identity. Within sexual orientation identity research, there are two components with which to be concerned, stability and consistency. The extent to which sexual orientation identity is stable over time is largely unknown as data show mixed findings.

Stability. Stability refers to the degree to which one's sexual orientation at time point one is a reliable predictor of one's sexual orientation at a future time point. With regard to stability of sexual orientation identity, studies vary in their findings depending on the group and the time frame being examined. For example, Carver, Egan, and Perry (2004) examined 182 children in the fourth through eighth grades over the course of a school year and found that sexual orientation identity was relatively stable, having a test-retest reliability of $r = .75$. In contrast, Kinnish, Strassberg, and Turner (2005) surveyed 762 individuals between the ages of 36 and 63; of those 277 (approximately one third) of the participants reported one or more transitions in sexual orientation identity over their lifetime. These findings would seem to suggest that when sexual orientation identity is studied over a short period of time that it is stable but when considered over the course of one's lifetime may vary significantly.

With regard to young adults, Diamond's study (2008) followed 79 non-heterosexual women between the ages of 18 to 25 over the course of ten years, interviewing them every two years. Over the ten-year period, 67% of the women had changed their sexual orientation identities at least once since the beginning of the study. Within the sample, 73% of bisexual women and 83% of initially unlabeled women had changed their sexual orientation identity since the first interview, compared to 48% of those who identified as lesbian. Interestingly, Diamond (2008) found no interaction between changes in sexual orientation identity and patterns of change in same-sex attraction suggesting that the young women may change their sexual orientation identity without undergoing a significant change in attraction to females.

A national study by Savin-Williams, Joyner, and Rieger (2012) assessed sexual orientation identity at two time points; the first time was in 2001 and 2002 with 20,745 participants ranging in age from 18–24 years ($M = 22.0$). The second time was in 2007 and 2008 with 15,701 participants ranging in age from 24–34 ($M = 28$). Of the 12,278 participants who were interviewed at both times, 5,204 men identified as 100% heterosexual at time one. At time two, 104 of them identified as mostly heterosexual, bisexual, or homosexual. By comparison, of the 5,649 women who identified as 100% heterosexual at time one, 668 of them identified as mostly heterosexual, bisexual, or homosexual at time two. Of the 113 men who identified as gay at time one, ten of them identified as 100% heterosexual or bisexual at time two. By comparison, of the 64 women who identified as lesbian at time one, 17 identified as 100% heterosexual, mostly heterosexual, or bisexual at time two. Overall, 36% of participants shifted sexual orientation identity from time one to time two.

Consistency. Consistency refers to the degree of agreement between an individual's sexual orientation and sexual orientation identity at one point in time. In a large study conducted by Ellis, Robb, and Burke (2005), 7096 college students were surveyed from twenty U.S. and two Canadian universities to estimate the prevalence of sexual orientation identity in North America. The participants ranged from 17 to 63 years in age ($M = 22.3$ for males and 22.09 for females) and sexual orientation was measured with four questions. Participants were asked (a) how would you describe your sexual orientation, (b) rate your attraction to same and opposite sex members (c) how often do your sexual fantasies involve someone of the same-sex and (d) the number of intimate sex partners. Of the 2574 males sampled, 96.6% identified as heterosexual, 1.3% identified as bisexual, 1.3% as homosexual, and .8% were uncertain. Out of 5110 females sampled, 97.6% as heterosexual, .7% identified as bisexual, .8% as homosexual, and 1.0 % were

uncertain. Interestingly, the researchers noted some seeming inconsistencies among the four sexual orientation measures in the study. For example, when asked about attraction to same and opposite sex members, 17 males and 17 females who self-identified as heterosexual stated that over 91% of their attractions were to the same gender. When asked about their sexual fantasies, a substantial number of self-identified heterosexuals (202 males and 447 females) reported that over 91% of their sexual fantasies involved their own gender. These findings suggest that for some individuals there is a substantial difference between sexual orientation and sexual orientation identity.

Another large-scale and longitudinal study by Savin-Williams and Ream (2007) further elucidates the seeming inconsistencies between sexual orientation identity and same-sex attraction (sexual orientation). Three waves of data were collected as part of the National Longitudinal Study of Adolescent Health with each wave occurring two years apart. In Wave 3, 15,170 of the Wave 1 participants were re-interviewed (M age = 21.7) and asked about their romantic attraction and sexual behavior, compared to Waves 1 and 2, additionally they were asked to report their sexual orientation identity in Wave 3. At Wave 3, 94.0% of males identified as heterosexual while only 91.1% indicated having exclusive opposite-sex attraction. For females, 85.1% identified as heterosexual while only 83.3% indicated having exclusive opposite-sex attraction. Despite, being able to select “mostly heterosexual” for sexual orientation identity, 5.7% of individuals who identified as heterosexual and had some degree of attraction to the same-sex selected heterosexual for their sexual orientation identity instead. Similarly, as part of the National Survey of Family Growth from 2006-2010, a nationally representative sample of 55,556 males and 56,032 females (ranging in age from 18-44 years) responded to questions of same-sex attraction, same-sex sexual contact, and sexual identity (Chandra, Mosher, Copen, &

Sionean, 2011). Again inconsistencies were found across three components of sexual identity, 4.1% of women and 2.8% of men reported an LGB identity whereas 16.1% of women and 6.1% of men reported at least some same-sex attraction and 12.7% of women and 5.6% of men reported at least some same-sex sexual contact. These findings suggest that although a low proportion of the respondents indicated an LGB identity, a considerably larger proportion nevertheless indicated same-sex attraction and had engaged in same-sex sexual contact—both of which might be considered LBG feelings or behaviors.

In a more recent study, Moradi and her colleagues (2010) surveyed 178 participants who had been recruited from LGB-affirming venues and organizations with regard to their sexual behavior and physical and emotional attraction. The participant ranged in age from 18 to 73 years ($M = 30.0$, $SD = 13.0$). The researchers found that 47% of LGB individuals reported having sex with their own gender only, 37% with their own gender mostly, 7% with both genders equally, 3% with the other gender mostly, and 6% reported they had never had sex.

Sexual identity. Several models have been proposed to help explain how sexual identity may develop for gay and lesbian individuals. *Sexual identity* refers to the acceptance of sexual needs, values, behaviors, preferred sexual activities and sexual expression, including sexual orientation identity (Worthington et al., 2002). One of the most widely known models is Cass's (1979) six-stage model for LG sexual identity development. Although the model is well recognized, it focuses primarily on the process of sharing one's sexual orientation identity with others (i.e., coming-out) rather than sexual identity development as a whole. McCarn and Fassinger (1996) and Fassinger and Miller (1997) have proposed a four-phase model for lesbian and gay individuals that extends beyond the coming-out process to include the individual and social processes of sexual identity development. However, sexual identity development models

for bisexuals are lacking and few exist for heterosexual individuals. One model of heterosexual identity development (Worthington et al., 2002) describes how heterosexual individuals may not put much thought into their sexual orientation because of culturally prescribed norms allowing them to adopt a seemingly required orientation of heterosexuality. However, in a “synthesized” identity, heterosexuals make a willing choice of sexual orientation identity that often requires active exploration of sexual identity. As a result, when heterosexuals have a synthesized identity they are often more affirming of LGB individuals (Worthington et al., 2002).

One of the most recently developed sexual identity scales is the Measure of Sexual Identity Exploration and Commitment (Worthington, Navarro, Savoy, & Hampton, 2008). It is one of the few sexual identity development models that has been validated for both LGB individuals and heterosexual individuals. The MOSIEC examines four-statuses of identity development (foreclosure, moratorium, achievement, and diffusion; Marcia, 1966) as they relate to six components of individual sexual identity (Worthington et al., 2002). An advantage of using a broad identity developmental model like the MOSIEC is that those who may not participate in LGB specific research because they have not disclosed their sexual orientation identity to others, may be more easily reached.

Sexual orientation and sexual identity milestones. Herek and colleagues (1998) surveyed 75 men and 75 women (age 16 to 68; $M = 33$ years) at a large LGB street fair (an estimated attendance of 4,000) asking them to complete a questionnaire assessing internalized homophobia and developmental milestones. Of this sample, the average age for beginning same-sex attraction was 11.5 years old for females and 10.3 years old for males. The average age for first disclosure of one’s sexual orientation was 20.5 for females and 21.2 for males. In contrast to the timing of identity milestones in Herek et al. (1998) study, participants in Savin-Williams and

Diamond's study (2000) were somewhat younger in age for first same-sex attraction and first disclosure. Participants were 78 women and 86 men (ages 17 to 25) who were recruited through a community newsletter for sexual minorities, Internet list-serves for sexual minority students and through college classes on gender and sexuality. On average males reported their first same-sex attraction at age 7.7 and their first disclosure at 17.9; by comparison, females reported their first same-sex attraction at age 9.1 and their first disclosure at 17.9.

A recent study by Fisher (2012) assessed developmental milestones with sexual minority youth (ages 15 to 20; $M = 18.4$) attending weekly activities at an LBGT community center, and found discrepant times depending on the method used to collect the information. Participants were given a self-administered survey asking them to report the age they first experienced six psychosexual milestones (attraction to someone of the same and opposite sex, same- and opposite-sex sexual experience, self-labeling as non-heterosexual, and disclosure of non-heterosexual identity or experience). Next, the participant and an interviewer filled out a life history calendar (LHC) together which contained reference cues (calendar year and month, year and semester of school, the participants birthday and age at the time) and then assessed the same six identity milestones as the self-administered survey. Of particular note were the discrepancies between the two methods, discrepancies that ranged from as little as 2.5 months to as much as 15 years. Average discrepancies for same-sex attraction were 1.5 years and 1.7 years for self-labeling. On average participants reported their first same-sex attraction at age 10.6 and 11.3, first opposite-sex attraction at age 11.4 and 11.3, first same-sex sexual contact at age 13.4 and 13.1, and first disclosure at 15.3 and 15.2 when comparing the self-administered survey results to the LHC results respectively. These discrepancies are important to note as the method of data collection in the aforementioned studies may result in sampling bias when sampling from LGB

specific resources. Specifically, sexual minorities who are less connected to LGB specific resources may not reach these developmental milestones at the same average points in time depending on their level of internalized heterosexism, which has been shown to effect a number of sexual identity milestones.

Internalized Heterosexism

Heterosexism refers to a bias that operates on individual, institutional, and cultural levels to stigmatize, deny, and denigrate any non-heterosexual way of being (Herek, D'Augelli, & Patterson, 1995). Some current examples of heterosexism include the Defense of Marriage Act which denies federal benefits to same-sex couples in the United States and the lack of legal protection from antigay discrimination in employment, housing, and services in many states. *Internalized heterosexism* (IH) can be differentiated from heterosexism as it emphasizes application of these negative societal messages on oneself. In the past, the terms *homophobia* and *internalized homophobia*, as introduced by Weinberg (1972), have been used. However, in current literature heterosexism and internalized heterosexism are preferred as they allow for the inclusion of a broader range of negative attitudes and emotions (Herek, 2004; Szymanski & Chung, 2003) rather than narrowly focusing on fear and avoidance of sexual minority persons (Herek, 2004).

Internalized heterosexism measures. Although a number of measures exist to examine the construct of internalized heterosexism, the majority are designed for use with gay men. The oldest published scale is the Nungesser Homosexuality Attitudes Inventory (NHAI; Nungesser, 1983) which measures IH on three dimensions, attitudes toward one's own homosexuality, attitudes toward homosexuality in general, and reactions toward others' knowing about one's homosexuality. Shidlo (1994) revised the aforementioned scale by adding more extreme items,

improving grammatically unclear statements, and removing items that confounded with other constructs. Around the same time, the internalized homophobia scale (IHS) was being developed by drawing from 9 items of the NHAH and adding 11 items developed by the HIV Center for Clinical and Behavioral Studies at the New York State Psychiatric Institute, (Wagner, Brondolo, & Rabkin, 1997; Wagner, Serafini, Rabkin, Remien, & Williams, 1994). An exploratory factor analysis supported the validity of IHS scores and showed that they were distinct from scores on depression and demoralization scales.

Beyond the NHAH and scales based on the NHAH, others have developed scales for use with gay men. Martin and Dean (1987) developed the Internalized Homophobia Scale (IHP) based on ego-dystonic criteria from the DSM-III. The IHP, however, has been criticized as having a narrow conceptualization of IH and it has been suggested that it may not be sensitive enough to detect low to moderate levels of IH (Shidlo, 1994). Lastly, Mayfield's (2001) Internalized Homonegativity Inventory suggests a broader conceptualization of IH with three dimensions: (a) personal homonegativity, (b) gay affirmation, and (c) morality of homosexuality. An exploratory factor analysis demonstrated that the IHNI was distinct from neuroticism, extroversion and social desirability.

Because all of the aforementioned scales had been developed for use with gay men, Szymanski and Chung (2001) developed the Lesbian Internalized Homophobia Scale (LIHS). The LIHS has five subscales measuring the following dimensions of internalized heterosexism: (a) connection with the lesbian community, (b) public identification as a lesbian, (c) personal feelings about being a lesbian, (d) moral and religious attitudes toward lesbianism, and (e) attitudes toward other lesbians. The scale has been modified for use with bisexual women (Balsam & Szymanski, 2005), and significant correlations have been found between the LIHS

subscales and measures of self-esteem, loneliness, depression, social support, passing for straight, membership in a LGB group, and conflict concerning sexual orientation. Because internalized heterosexism measures were originally developed for a specific population, many researchers have often re-worded IH measures designed for use with sexual minority men to fit with lesbian and bisexual women, and vice versa. However, it is rare that the appropriate analyses have been conducted to verify the reliability of the re-worded measures. Several theorists (Mayfield, 2001; Szymanski & Chung, 2001) suggest that because men and women may have different patterns of sexual identity development, they may experience IH in unique ways. Thus, items originally intended for gay men may not be valid when applied to lesbian women or bisexual men/women.

Correlates of Internalized Heterosexism. Two approaches used to conceptualize the impact of IH on LGB individual's lives, *feminist theory* (Szymanski & Chung, 2003) and *minority stress theory* (Frost & Meyer, 2009), find common ground in suggesting that IH is a result of pervasive external heterosexism and not as a weakness or deficit of LGB individuals. Both theories indicate that health problems (both physical and psychology) or excess stress develop out of the minority status an individual holds in connection with the political, cultural, social and economic climate in which people live and that problems are reactions to oppression (Brown, 1988, 1994; Enns, 2004). A number of studies exist examining the correlates of internalized heterosexism in categories such as sexual identity formation and coming out; mental, psychosocial, and physical health (e.g., increased loneliness, greater body dissatisfaction, lesser degree of investment in one's physical health); substance use; parenting and family issues; gender roles and feminism; religion etc. (Szymanski et al., 2008). As an example, Lehavot and Simoni (2011) studied 1381 lesbian and bisexual women (ages 18 to 86 years; $M = 33.5$) whom

they had recruited through LGB listservs, website groups and organizations. Their study demonstrated that IH was associated with less activation of interpersonal and intrapersonal resources, which in turn was associated with increased mental health problems and substance use. Using LGB victimization, IH, and concealment as independent variables, their regression model accounted for 56% of the variance in mental health (Lehavot & Simoni, 2011).

Psychological distress and well-being. A number of studies have examined the relationship between psychological distress, well-being and internalized heterosexism with sexual minorities. A recent meta-analysis of 31 articles published from 1986 to 2008 representing 5831 participants, mean age 32.7, found a small to moderate effect size for the relationship between IH and internalizing mental health problems ($ES_r = .262$; (Newcomb & Mustanski, 2010). Several more recent studies have investigated the mediating or moderating role that psychological distress can play between internalized heterosexism and other factors. Span and Derby (2009) found that depressive symptoms moderated the link between internalized heterosexism and drinking habits in a study of 72 LGB individuals ages 18-69 ($M = 30.3$). A study on relationship quality with 396 lesbian, gay and bisexual individuals ($M \text{ age} = 32.4$) recruited from diverse neighborhoods rather than “gay neighborhoods,” found that internalized homophobia, depression, and relationship problems were significantly correlated with one another (Frost & Meyer, 2009).

Although all of the aforementioned studies utilized checklists or inventories related to depression, anxiety or general mental health symptoms, very few studies have examined the relationship between IH and participant well-being in terms of stress-related growth, satisfaction with life, or positive affect. One study by Cox, Dewaele, van Houtte, and Vincke (2011) examined the relationship between IH and stress-related growth in a sample of 502 LGB

individuals (age 14-30; $M = 19.1$). Participants who indicated that they were exclusively heterosexual, mostly heterosexual, or who did not know how to identify their sexual orientation were excluded from the study. A significant negative relationship was found between IH and stress-related growth; however, stress-related growth did not mediate the relationship between coming out and IH as the authors' hypothesized. Furthermore, depressive symptoms mediated the association between internalized homophobia and relationship problems. In another study, Dew, Myers, and Whitman (2005) found a significant negative correlation between wellness and internalized homophobia in 217 gay men (M age = 38). To have a more holistic view of the impact of IH on LGB individuals, both psychological distress and well-being of participants should be assessed.

Self-esteem. The relationship between internalized heterosexism and self-esteem has been explored in a number of studies. Of particular relevance to the current study is a study by Peterson and Gerrity (2006) of self-esteem and internalized heterosexism in undergraduate women. Questionnaire packets were distributed to 2,250 undergraduate women, of which 158 were returned. Of those, 35 participants (M age = 20.9) met the study's inclusion criteria (reporting of at least some lesbian identity development). Interestingly, nine of the 35 individuals identified as heterosexual and reported at least some lesbian identity development. The study indicated a significant negative relationship between participant self-esteem and internalized heterosexism ($r = -.34$). Similarly, in their study of 304 lesbian and bisexual women recruited from lesbian-related listservs, Szymanski & Kashubeck-West (2008) found a significant relationship was found between IH and psychological distress ($r = -.37$).

Herek, Gillis, and Cogan (2009) found a similar relationship between self-esteem and IH in their study of 2,259 LGB adults ($r = -.27$). Regression analyses from the study indicated that

self-esteem mediated the relationship between internalized heterosexism and state anxiety, positive affect, and depressive symptoms. Other studies have demonstrated similar results when using a sample of gay men. For example, Allen and Olesen's (1999) study of 90 gay males (M age = 36.3) found a significant correlation between IH and self-esteem ($r = -.20$) and Shidlo's (1994) study of 71 gay and bisexual males found that a little under 35% of the variability in self-esteem was accounted for by internalized heterosexism.

Sexual identity development. Internalized heterosexism has also been found to negatively impact sexual identity development in LGB individuals. Peterson and Gerrity (2006) examined the relationship between internalized heterosexism and sexual identity development using Cass' model (1979) in 35 participants lesbian and bisexual women (M age = 20.9). A significant negative correlation was found between sexual identity development and internalized heterosexism, such that as sexual identity development stages increased, internalized heterosexism decreased. Thus, sexual minority women are likely to have higher levels of internalized heterosexism early on in their sexual identity development. Mayfield (2001) found a large negative relationship between IH and gay identity stages as well ($r = -.68$) in his study of 241 gay men (M age = 33.9).

Studies also have examined the relationship between disclosure of one's sexual orientation and internalized heterosexism in LGB individuals. D'Augelli, Grossman, and Starks (2005) investigated sexual orientation disclosure to family members among 238 LGB and 55 mostly heterosexual youths (M age = 16.8). They found that youth with families that were aware of their sexual orientation reported significantly less IH than youth with unaware families ($d = .58$). Similar results were found in a larger scale study of 2,259 LGB adults. Specifically, those who had disclosed their sexual orientation to one of their parents had significantly lower levels

of IH when compared to those who had not disclosed to either (Herek et al., 2009). Another study compared 178 LGB individuals comparing LGB European Americans (M age = 34.6) and LGB individuals of color (M age = 25.3). When controlling for age there was a significant correlation between IH and outness ($r = -.32$ and $r = -.45$ respectively) and between IH and comfort with disclosure ($r = -.41$, $r = -.57$; (Moradi et al., 2010).

Other elements related to disclosure also show significant relationships with IH, such as conflict concerning sexual orientation identity, passing as heterosexual, hiding one's sexual orientation, less percentage of LGB friends and lack of membership in a LGB group. In their study of 157 women (M age = 36.1), Szymanski, Chung, and Balsam study (2001) found that IH was positively correlated with passing as heterosexual and with more conflict or confusion concerning sexual orientation identity. And in a study of 241 gay men, Mayfield (2001) found those with higher levels of IH had a lower percentage of LGB friends ($r = -.31$). Lastly, in Ross and Rosser's study (1996) of 184 men (M age = 37) who were attracted to other men, those who spent more social time with gay individuals were more likely to endorse social comfort with other gay men and to publicly identify as being gay.

Summary

Within the growing body of research exists on internalized heterosexism, numerous studies have sought participants from LGB resources, groups, and listservs (Amadio, 2004; Chung & Szymanski, 2006; Kashubeck-West & Szymanski, 2008; Szymanski & Kashubeck-West, 2008) as opposed to sampling from the general population. When the general population is sampled, participants who identify as heterosexual or mostly heterosexual are often excluded without examining their degree of same-sex attraction (Cox et al., 2011; Peterson & Gerrity, 2006). Thus, the majority of research that exists with regard to internalized heterosexism in the

LGB population has examined LGB individuals who are open about their sexuality and in general report low levels of IH. For this reason, it may be reasonable to assume that current research on IH might underestimate the true effect that IH has on LGB individuals as very few samples have sought LGB individuals who are not connected to LGB specific resources and supports. Finally, the conceptualization of internalized heterosexism in past literature as an exclusively LGB related construct may be too narrow in focus. If sexual orientation is viewed on a continuum, it is possible that individuals who express same-sex attraction may possess some degree of IH even though they do not identify as LGB.

Over the past few decades, sexual identity models have expanded to include more dimensions of sexual identity development, as opposed to simply measuring the degree of one's sexual orientation disclosure. Researchers who study sexual minorities have recently been making progress as they have begun to examine the variability in same-sex attraction and to recognize the need to conduct research in a confidential manner in order to obtain the most accurate results. Finally, as heterosexism continues to be a problem in the United States, researchers have begun to examine the deleterious effects that internalized heterosexism has on the individual. Despite these gains, much of the past research has been limited in its methodology by using scales not normed on the population being examined, sampling LGB individuals with high levels of LGB specific support who may not represent an average LGB individual, and by limiting their conceptualization of internalized heterosexism as an LGB specific construct.

Chapter III

Method

The current study was designed to investigate the factor structure of a new measure to develop internalized heterosexism that can be used with any individual expressing same-sex attraction. This research also examined the extent to which individuals with same-sex attraction who do not identify as LGB experience internalized heterosexism, the relationship between internalized heterosexism, psychological distress, life satisfaction, self-esteem, and sexual identity development. This chapter describes study participants, instruments, procedures, and data analysis.

Participants

Five hundred ninety-five participants completed the online survey. Of these 595, 242 participants (40.7%) expressed at least once having physical or sexual attraction to the same-sex and completed the Personal Internalized Heterosexism Scale (PIHS; see Procedure section below for information on sampling). Table 1 displays demographic information for the overall sample and the same-sex attraction sample. Demographic information indicated that in contrast to the sample at large, the same-sex attraction sample (who constituted the participants for the study) had a higher percentage of females (76.9% compared to 67.4%), fewer freshmen (16.3% versus 24%), and more graduate students (23.3 versus 16.1%).

Descriptive statistics are next given for the participants. The mean age of participants was 21.6 years, $SD = 3.4$. Females comprised 76.9% of the sample ($n = 186$) and 23.1% were male ($n = 56$). In terms of racial/ethnic identification, 87.9% of the sample ($n = 211$) identified as Caucasian, 4.6% ($n = 11$) as Asian American, 4.2% ($n = 10$) as Latina(o)/Hispanic, 2.9% ($n = 7$) as African American, 0.4% ($n = 1$) as Native American/Pacific Islander. Two individuals did not

indicate their race/ethnicity. Of the sample, 62.0% (n = 150) identified as heterosexual, 17.8% (n = 43) as bisexual, 9.1% (n = 22) as questioning, 7.4% (n = 18) as gay, and 3.7% (n = 9) as lesbian. No differences on relevant variables existed between participants from different universities.

Table 1.

Participants' Demographic Information for Overall Sample and Same-Sex Attraction Subsample

Characteristic	Overall Sample				Same-Sex Attraction Sample			
	N	%	M	SD	N	%	M	SD
Age	595		21.2	3.5	242		21.5	3.4
Sex								
Male	194	32.6			56	23.1		
Female	401	67.4			186	76.9		
Race								
Caucasian/Euro. Am.	489	87.6			211	87.9		
Black/African American	18	3.2			7	2.9		
Latina(o)/Hispanic	17	3.0			10	4.2		
Asian American	27	4.8			11	4.2		
Native Am./Pac. Islander	7	1.3			1	.4		
Sexual Orientation								
Heterosexual	464	82.7			150	62.0		
Gay	19	3.4			18	7.4		
Lesbian	10	1.7			9	3.7		
Bisexual	44	7.4			43	17.8		
Questioning	24	4.3			22	9.1		
Year								
Freshman	134	24.0			39	16.3		
Sophomore	118	21.1			52	21.7		
Junior	113	20.3			47	19.6		
Senior	103	18.5			46	19.2		
Graduate Student	90	16.1			56	23.3		

When asked about their level of outness (1 = *low*, 7 = *high*) lesbian, gay, and bisexual, individuals (n = 67) reported moderate levels of disclosure to their family ($M = 3.5$, $SD = 1.8$), and moderate levels to other individuals in their life ($M = 3.7$, $SD = 1.6$). Less than half of the

LGB individuals ($n = 29$) indicated being connected to religious communities and those that were reported low levels of disclosure to their religious communities ($M = 2.4$, $SD = 2.1$).

Individuals who identified as heterosexual with same-sex attraction were not asked to complete the Outness Inventory as the literature suggests that individuals who identify as heterosexual do not go through a disclosure period of time in life due to heteronormativity (i.e., the assumption held by society that all individuals are heterosexual unless it is explicitly made known otherwise). Additionally, questioning individuals also were not asked to complete the Outness Inventory as their identity status implied that they had not determined their sexual orientation in order to disclose it. The degree of outness by sexual orientation is reported in Table 2. Finally, in terms of education 16.3% of the sample ($n = 39$) identified as freshmen, 21.7% ($n = 52$) identified as sophomores, 19.6% ($n = 47$) identified as juniors, 19.2% ($n = 46$) identified as seniors, 23.3% ($n = 56$) identified as a graduate students.

Table 2.

Lesbian, Gay and Bisexual Level of Sexual Orientation Disclosure

Dimension	Lesbian ($n = 9$)		Gay ($n = 17$)		Bisexual ($n = 42$)	
	M	SD	M	SD	M	SD
Family	4.9	0.7	4.4	1.6	2.9	1.7
Others	4.5	1.3	4.0	1.7	3.3	1.6
Religious Community	2.5	2.6	2.7	2.2	2.3	2.1
Overall	4.5	1.2	4.1	1.5	3.1	1.6

Instruments

Demographic Questionnaire. Following the recommendations of Moradi, Mohr, Worthington, and Fassinger (2009), the demographic portion of the survey included five demographic questions (age, sex, race-ethnicity, current year in school and sexual orientation). Participants in the current study indicated their sexual orientation by selecting from the options *gay*, *lesbian*, *bisexual*, *questioning*, and *heterosexual*, although the researcher recognizes that

there are many other ways in which individuals may identify (e.g., *queer*, *asexual*, *bi-curious*, etc.). Participants' responses to the sexual orientation identity question were used as an independent variable in Hypotheses II and III. Although *questioning* is not a sexual orientation, it is a sexual orientation identity in the sense that an individual may be questioning what their sexual orientation is at the present time. Thus, *questioning* was included in the present study to capture the experience of those individuals who are trying to determine their sexual orientation, a likely possibility in the college-aged population given the uncertainty related to many aspects of their identity.

Same-sex attraction. Same sex-attraction in Hypotheses IV and V was measured by asking participants to respond to questions about their emotional, physical, and sexual attraction following the American Psychological Association's definition of sexual orientation including the aforementioned components (1998). For example, participants were asked, "*To whom have you felt physically attracted, even if you did not take any action based on feeling attracted?*" Participants rated this item and other attraction items on a 5-point Likert scale from 1 (*only to females, never to males*) to 5 (*only to males, never to females*), with the continuum being reversed for females so that 1 was (*only to males, never to females*) and 5 (*only to females, never to males*). Higher scores on each scale indicate higher levels of same-sex attraction. The decision to present participants with the internalized heterosexism scale only if the participant indicated any degree of same-sex physical or sexual attraction (a score of 2-5), was based on research that indicates heterosexism often has its roots from a reduction of same-sex relationships to the physical and sexual aspects rather than the emotional component (Garnets & Kimmel, 1993). Otherwise, the online presentation of the survey instruments would skip this scale.

Outness Inventory (OI; Mohr & Fassinger, 2000). To aid in the generalizability across studies, the Outness Inventory, a 10-item measure, was included to assess the extent to which participants had disclosed their sexual orientation to others. Participants rated their level of outness on a 7-point Likert scale from 1 (*person definitely does not know about your sexual orientation status*) to 7 (*person definitely knows about your sexual orientation status, and it is openly talked about*). Participants were given the option to select 0 if they felt the individual or group is *not applicable to your situation; there is no such person or group of people in your life*. Higher scores indicated greater disclosure of sexual orientation on three subscales: (a) family, (b) religious community, and (c) others (including work peers, strangers, and new acquaintances). Subscales were computed by re-coding not applicable responses as missing values and then averaging across all remaining items on the subscale. The family and others subscales have four items while the religion subscale has two. The overall outness was calculated by computing a mean of the subscales.

Factor analyses support the use of OI total and subscale scores. OI scores have been found to correlate positively with lesbian and gay community identification, and the internalization-synthesis phase of individual sexual orientation identity (J. Mohr & Fassinger, 2000) and negatively with effort to maintain privacy of sexual orientation (Balsam & Mohr, 2007). Balsam and Mohr (2007) found a Cronbach's alpha of .89 for OI items with their sample of bisexual individuals. Acceptable reliability has also been found for the use of the OI among Asian American (Szymanski & Sung, 2010) and among African Americans (Moradi et al., 2010) LGB individuals ranging from .80-.83 and .69-.99 respectively.

Psychometric properties for the OI are based on a subsample of 232 lesbians and 179 gay men out of an original sample of 590 lesbians and 414 gay men used to validate the Lesbian and

Gay Identity Scale (J. Mohr & Fassinger, 2000). The participants from the entire sample ranged from 18-69 years old ($M = 36.62$, $SD = 9.47$). The sample included a range of educational levels with the majority having received at least a bachelor's degree: high school (2%), technical-vocational training (1%), some college (14%), associate's degree (6%), bachelor's degree (31%), and graduate/professional degree (46%). With regard to racial/ethnic background the categories were Black (3%), American/Black, Asian/Pacific Islander (1%), Hispanic (3%), Native American (1%), biracial or multiracial (4%) and White (86%). The survey was announced in LG specific resources in East Coast cities and at an LG event in Washington, DC. Fifty-eight percent of participants learned of the study from an email solicitation, and the total return rate was 49%.

The sample was randomly divided so that three quarters of the sample was used for the exploratory factor analysis and the remaining quarter of the sample was used for the confirmatory factor analysis. A principal components analysis with varimax rotation was performed on the OI and items were retained if they had a loading of at least .40 on one factor for both lesbian and gay individuals. The principal components analysis resulted in the three-factors scale structure of the OI: Out to World, Out to Family, and Out to Religion with a retention of 10 of the 11 items. Cronbach's alphas for the Out to World, Out to Family and Out to Religion subscales are .79, .74, and .97 respectively. The researchers did not report Cronbach's alpha for the overall scale. A confirmatory factor analysis was performed on the remaining one-quarter sample and items were allowed to covary. Acceptable fit for the structure was supported by three indices of fit (CFI = .95; NNFI = .94; GFI = .91).

Research also demonstrates support for the validity of the Outness Inventory. Discriminant validity of scores on the three subscales was supported by the Out to Religion subscale being related to whether participants were involved in a pro-gay or non-supportive

religious organization. As the researchers hypothesized those with generally higher levels of outness tended to have higher levels of identification with LG communities and higher levels of individual identity development.

Personal Internalized Heterosexism Scale (PIHS). Internalized heterosexism in Hypotheses I, II, III, IV, and V was measured using the Personal Internalized Heterosexism Scale (PIHS; see Appendix A). The PIHS was developed by the author of the current study to assess the internalized heterosexism experienced by individuals with same-sex attraction. Items were initially developed through an examination of existing scales that measure internalized heterosexism. Specifically, items were informed by the domains of *personal internalized heterosexism* (Mayfield, 2001) and *personal feelings* (Szymanski & Chung, 2001). Items were modified to increase identification with the items for any individual with same-sex attraction rather than for gay men or lesbian women. Furthermore, items from the revised and extended version of the LGBIS (J. J. Mohr & Kendra, 2011) were modified to address same-sex attraction rather than a heterosexual sexual orientation identity in order to increase participant identification with items. For example, “*I wish I were heterosexual*” was modified to be “*I wish I was not attracted to the same-sex.*” In a pilot study, Cronbach’s alpha for the modified internalized homonegativity subscale of the LGBIS for heterosexual and questioning individuals was .82 (LaFollette, 2012). Additional items were generated by using language from the Beck Depression Inventory II (Beck, Steer, & Brown, 1996), the Beck Anxiety Inventory (Beck, Epstein, Brown, & Steer, 1988), the Experience of Shame Scale (B. Andrews, Qian, & Valentine, 2002) and cognitive literature. All items underwent expert review and were subsequently modified before being administered to the current sample.

Kessler Psychological Distress Scale (Kessler et al., 2002). Psychological distress in Hypothesis II was measured using the Kessler Psychological Distress Scale. The ten question version of the Kessler Psychological Distress scale (K10) consists of statements reflecting depression and anxiety. Items are rated on a 5-point Likert scale from 1 (*none of the time*) to 5 (*all of the time*) based on how the participant has been feeling over the past 30 days. Scores range from 10 to 50. Participants who score under 20 are likely to be psychologically healthy, 20-24 are likely to have a mild mental disorder, 25-29 are likely to have moderate mental disorder, and scores 30 and over are likely to have a severe mental disorder (G. Andrews & Slade, 2001). Kessler et al. (2002) found a Cronbach's alpha of $\alpha = .93$ for the K10.

Psychometric properties for K10 are based on five community surveys (Kessler et al., 2002). Two pilot surveys were conducted to develop the screening scales from a larger pool of questions. The initial pilot survey was carried out in a nationally representative mail sample oversampling with Hispanic surname and zip codes with high concentrations of African Americans. A total of 1403 respondents completed the questionnaire. A revised set of questions was administered to a nationally representative telephone sample of 1574 respondents. The K10 was developed from the results of the pilot surveys using item response theory. Two convenience samples were obtained; the first consisted of a brief telephone-screening interview of 1000 respondents; the second consisted of a subsample of 155 first-stage respondents.

An initial pool of 612 questions from existing screening scales was reduced to 235 by discarding redundant and unclear questions. Items were then sorted into 15 domains represented in the DSM-III-R diagnoses of major depression and anxiety, in addition to the domain of positive affect. Principal axis factor analysis among the remaining 45 questions included in the mail pilot survey resulted in a one-factor structure with a Cronbach's alpha of $\alpha = .93$. Item

response theory tested one-parameter and two-parameter models with the 106 items that passed the unidimensionality test and found better fit with the two-parameter model. A principal axis factor analysis was then conducted on the 32 questions included in the telephone pilot survey. Item response theory tested one-parameter and two-parameter models with the 93 items that passed the unidimensionality test and found better fit with the two-parameter model. Thirty-four of the items had severity parameters that were consistent across sociodemographic subsamples. Decomposition was then used to generate a test information curve for a possible 10-question subscale of the larger scale. Excellent internal consistent reliability was found for the K10 in the telephone pilot survey ($\alpha = .93$).

The validity of the K10 was examined by evaluating the scale's ability to discriminate between community cases and non-cases of DSM-IV disorders. Respondents were classified as cases if they met criteria for a 12-month DSM-IV diagnosis of either an anxiety disorder, mood disorder or non-affective psychosis and had a GAF score in the range of 0-70. The receiver operator characteristic curve for the K10 indicated very good discrimination with the area under the curve equal to 0.879.

Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985). Life-satisfaction in Hypothesis III was assessed using the Satisfaction with Life Scale (SWLS). The five-question SWLS was scored using a 7-point Likert scale; 1 (*strongly disagree*) to 7 (*strongly agree*). Scores can range from 5 to 35, with higher scores indicating greater satisfaction with life. Test-retest reliability ranges from coefficients of $r = .84$ (Pavot, Diener, Colvin, & Sandvik, 1991) for a 1-month interval and $r = .54$ over a four-year span (Magnus, Diener, Fujita, & Pavot, 1993). Validity for the SWLS has been demonstrated through its significant correlations with the Fordyce Global Happiness Scale ($r = .68$), daily satisfaction as reported by journal entry ($r = .65$)

the Philadelphia Geriatric Center Morale Scale ($r = .65$), and the Life Satisfaction Index-A ($r = .81$) (Pavot et al., 1991).

Psychometric properties for the SWLS are based on several samples (Diener et al., 1985). In the initial phase, a list of 48 self-report items was generated and an initial factor analysis resulted in three factors: positive affect, negative affect, and satisfaction. The affect items were eliminated as were items with loading less than .6, lastly items that were semantically similar were eliminated resulting in a five item scale. A sample of 176 undergraduates were administered the SWLS in a group setting and two months later 76 of the students were re-administered the scale. The two-month test-retest correlation coefficient was .82 and Cronbach's alpha was .87. Using principal factors analysis one single factor emerged accounting for 66% of the variance. Next the validity of the measure was established by using two samples, the original 176 undergraduates and a new group of 163 undergraduate students. The SWLS showed a weak and non-significant correlation with the Marlowe-Crowne measure indicating that the SWLS was not invoking a social desirability response set. In both samples there were moderately strong correlations between the SWLS and the Cantril Anchor Scale ($r = .62$ and $.66$), the Positive Affect Scale ($r = .50$ and $.51$) as well as other subjective well-being scales. As evidence of discriminant validity, the SWLS negatively correlated with the Neuroticism scale of the Eysenck Personality Inventory ($r = -.48$) and a symptom checklist similar to the Hopkins inventory ($r = -.41$). Pavot, Diener, Colvin, and Sandvik (1991) validated further the SWLS in their sample of 136 students (85 women and 51 men). Test-retest reliabilities for two-week intervals averaged .84 and for 1 month were .84. Again a principal components analysis indicated a single factor that accounted for 74% of the variance. Convergent validity was furthered for the SWLS by examining the relationship

between self-report and peer-reported life satisfaction ($r = .55$) and the relationship between self-report and family-reported life satisfaction ($r = .57$).

Rosenberg Self-Esteem Scale (Rosenberg, 1965). Self-esteem in Hypothesis III was assessed using the Rosenberg Self-Esteem Scale (RSE). The RSE consists of 10 statements reflecting self-acceptance and self-worth. Sample items include “*On the whole, I am satisfied with myself*” and “*I take a positive attitude toward myself.*” Each item is rated on a 4-point Likert scale from 0 (*strongly disagree*) to 3 (*strongly agree*). The total score was computed by reverse scoring necessary items and then adding all items on the measure. Scores can range from 0 to 30 and higher scores are indicative of higher levels of self-esteem. Scores below 15 are considered to be low self-esteem.

While psychometric properties for RSE were originally based on 5024 high school juniors and seniors from 10 randomly selected New York high schools (Rosenberg, 1965), the RSE has been widely used over the last 45 years and has received much attention to its validation and psychometric properties during that time (Goldsmith, 1986; Gray-Little, Williams, & Hancock, 1997; Schmitt & Allik, 2005; Shevlin, Bunting, & Lewis, 1995). Of particular relevance to the current study were studies that demonstrate that the RSE has good reliability and validity among university students and LGBT individuals.

A recent study by Robins, Hendin, and Trzesniewski (2001) examined the psychometric properties of the Rosenberg Self-Esteem scale using a sample of 508 undergraduate students from the University of California Berkley. With regard to racial/ethnic background the categories, 42% of the sample identified as Asian American, 40% as Caucasian, 11% as Chicano/Latino, 6% African American, and 1% Native American. Sexual orientation of students was not reported in the study. Participants were assessed annually throughout college during the

first week of college, the end of their first semester and at the end of each academic year. Test-retest correlation for the Rosenberg Self-Esteem scale across time was strong (mean $r = .69$). Factor analyses of the 10-item RSE suggested a single factor as all items had high loadings on the first unrotated factor, a scree test showed an “elbow” after the first factor. Analysis using structural equation modeling showed relatively good fit with a single factor model (Comparative Fit Index [CFI] = .90). Convergent and discriminant validity was also examined for RSE. RSE was positively correlated with optimism ($r = .48$), life satisfaction ($r = .54$), positive dispositional affect ($r = .56$) and negatively correlated with neuroticism ($r = -.70$), depression ($r = -.34$) and perceived stress ($r = -.39$). An extensive literature review did not reveal any studies that aimed to determine the factor structure of the RSE for LGB individuals. However, numerous studies on LGB individuals have utilized the RSE and have found acceptable internal consistency ranging from .81 - .90 (Balsam, Beauchaine, Mickey, & Rothblum, 2005; Szymanski & Carr, 2008; Yakushko, 2005). Szymanski and Kashubeck West (2008) demonstrated convergent validity for the RSE in a study of 304 lesbian and bisexual women as the RSE demonstrated a strong negative correlation with the Feelings of Inadequacy Scale ($r = -.88$)

Measure of Sexual Identity Exploration and Commitment (MOSIEC; Worthington et al., 2008). Sexual identity development in Hypothesis III was assessed using the Measure of Sexual Identity Exploration and Commitment. The MOSIEC contains 22 items designed to measure four dimensions of sexual identity development on four subscales: (a) exploration (8 items), (b) commitment (6 items), (c) sexual orientation uncertainty (3 items), and (d) synthesis (5 items). Items were rated on a 6-point Likert scale ranging from 1 (*very uncharacteristic of me*) to 6 (*very characteristic of me*). Six components of individual sexual identity are addressed by the scale: (a) sexual needs, (b) sexual values, (c) characteristics of sexual partners, (d)

preferred sexual activities, (e) sexual orientation identity, and (f) modes of sexual expression. Subscales will be computed by reverse scoring necessary items and then taking the average of the items within each subscale. Scores could range from 1 to 6 on each subscale with higher scores on each subscale being indicative of higher levels of the construct measured by that subscale. Internal consistencies (Cronbach's α) range from .74 to .89 for the MOSIEC subscales.

Psychometric properties for the initial development of the MOSIEC and its initial reliability and validity estimates are based on 690 participants. Of the 422 female participants, 63 identified as bisexual (14.9%), 235 identified as heterosexual (60.4%), 84 identified as lesbian (19.9%), 13 identified as "other" (2.0%) and 7 did not report a sexual orientation identity. Of the 256 male participants, 15 identified as bisexual (5.9%), 145 as heterosexual (56.6%), 86 as gay (33.6%), 7 as "other" (2.8%), and 3 did not report gender. The mean participant age was 27.5 years old ($SD = 9.8$). With regard to racial/ethnic background the categories were 2.3% identified as African American/Black, 2.6% as Asian American/Pacific Islander, 3.5% as Latino/Hispanic, .3% as Native American/American Indian, 1.3% as biracial or multiethnic, .6% as international/non-U.S. citizens, 1.5% as other and 87.4% as White/Caucasian. Participants were recruited via three methods (a) classroom administration of the survey to students (b) online participation via email announcements posted to LGBT community listservs across the U.S. and Canada and (c) online participation via two public-access Internet sites containing links to psychological research studies.

An initial principal-axis factor analysis was performed on the 48-item scale. Six factors met the Kaiser-Guttman retention criterion of eigenvalues greater than 1.0, while a scree-plot test indicated a four-factor solution. Subsequent principal-axis factor analyses using five-, four-, three-, and two-factor solutions with oblique rotations were then performed. A total of 26 items

were deleted because of low communalities (less than .30). Communalities for the remaining 22-item scale ranged from .30 to .82 after rotation.

A second study of 1,038 participants was conducted to confirm the MOSIEC factor structure and construct validity. Participants ranged in age from 18 to 66 years ($M = 26.1$). Of the 664 female participants, 85 identified as bisexual (12.8%), 445 identified as heterosexual (67.0%), 67 identified as lesbian (10.1%), and 67 identified as “other” (10.1%). Of the 366 male participants, 21 identified as bisexual (5.7%), 250 as heterosexual (68.3%), 95 as gay (26.0%), and 0 as “other.” Eight participants identified as transgender (.8%). With regard to racial/ethnic background the categories were 5.3% identified as African American/Black, 3.7% as Asian American/Pacific Islander, 4.1% as Latino/Hispanic, .9% as Native American/American Indian, 2.4% as biracial or multiethnic, .6% as international/non-U.S. citizens, 2.8% as other and 78.8% as White/Caucasian. Participants were recruited through online participation via two public-access Internet sites containing links to psychological research studies.

The sample was randomly split into two subsamples to replicate findings. An initial confirmatory factor analysis was conducted on the 22 items of the MOSIEC in one sample ($n = 517$) followed by a second CFA in the remaining subsample ($n = 521$). Three competing models were tested between the identified four-factor oblique model, a three factor oblique model in which the relatively highly correlated Synthesis and Commitment items were collapsed into a single factor, and a three-factor oblique model in which Exploration and Uncertainty items were collapsed into a single factor. While the chi-squared statistics for all models were significant, all three models fell short of adequately fitting the data. After residuals were correlated together based on the five highest Lagrange multiplier modification indexes, adequate fit was achieved for the four-factor oblique model. Identical procedures were carried out for the second sample

and resulted in the same five Lagrange multiplier modification indexes being correlated together as in the first CFA. Again, adequate fit was found for the four-factor oblique model after this procedure.

Lastly, a third sample was used to establish convergent validity and additional reliability data. Participants ranged in age from 18 to 80 years ($M = 25.4$). Of the 508 female participants, 67 identified as bisexual (13.2%), 403 identified as heterosexual (79.8%), 34 identified as lesbian (8.0%), and 4 identified as “other” (.8%). Of the 329 male participants, 21 identified as bisexual (6.4%), 267 as heterosexual (81.7%), 38 as gay (11.6%), and 3 as “other” (.9%). Ten participants identified as transgender (.9%). With regard to racial/ethnic background the categories were 3.4% identified as African American/Black, 3.3% as Asian American/Pacific Islander, 6.2% as Latino/Hispanic, 1.5% as Native American/American Indian, 2.4% as biracial or multiethnic, .2% as international/non-U.S. citizens, 2.8% as other and 80.2% as White/Caucasian. Participants were recruited via online participation via email announcements posted to LGBT community listservs across the U.S. and Canada and online participation via two public-access Internet sites containing links to psychological research studies.

Divergent and convergent validity was supported by examining the correlations between the four subscales of the MOSIEC and scores on Sexual Conservatism, Sexual Consciousness, Sexual Self-Monitoring, Sexual Assertiveness, and Sexual Appeal Awareness. Commitment was positively associated with Sexual Self-Consciousness ($r = .45$) and Sexual Assertiveness ($r = .41$). Exploration was negatively associated with Sexual Conservatism ($r = -.36$) and positively associated with Sexual Self-Consciousness ($r = .32$) and Sexual Self-Monitoring ($r = .30$). Synthesis was positively associated with Sexual Self-Consciousness ($r = .42$) and Sexual Assertiveness ($r = .29$). A fourth sample provided two-week test-retest reliability for the four

scales of the MOSIEC as follows: Commitment ($r = .80$), Exploration ($r = .85$), Uncertainty ($r = .90$), and Synthesis ($r = .71$).

Procedures

Human subjects approval was sought from the University of Kansas Institutional Review Board and Truman State University Review Board before prospective participants were recruited. Individual who were 18 years or older and currently enrolled in a university were eligible to participate in the study. Prospective participants were recruited at a large Midwestern University through flyers with tear-tabs and quick response codes (two-dimensional barcodes that can be scanned using a camera phone) directing them to an Internet survey. Flyers were posted in public places throughout the university in halls, unions, recreation centers, and the student health building. A random sample of 5000 students from a small liberal arts Midwestern University were e-mailed a brief description of the survey and a link to participate in the Internet survey. The initial page of the survey included further explanation of the purpose and procedures of the study, including an estimated time of completion, and possible risks and benefits to the participant (see Appendix B). The research was framed as examining the relationship between attraction and well-being as opposed to an LGB specific survey as there are likely some individuals who have same-sex attraction, and engage in same-sex behavior but do not identify as LGB (Meyer & Wilson, 2009).

After reading the informed consent statement, participants were first directed to two items to assess their eligibility for participation. The first question assessed the participant's age and the second question assessed the participant's enrollment status. Individuals who indicated that they were less than 18 years of age or who were not currently enrolled in a university were directed out of the survey. Qualifying participants next indicated their gender, and depending on

the participant's selection, they were next directed to one of the two versions of the dependent measure on sexual attraction. Three validity questions were interspersed between asking the participant's about their emotional, physical, and sexual attraction.

Participants were then asked to indicate their same-sex attraction and if they indicated that they identified as lesbian, gay, or bisexual they were then directed to complete the questionnaire on outness. Participants who had indicated that they had at least once been physical or sexually attracted to a member of the same-sex were then asked to complete the IH measure, after which all participants completed the remaining two demographic questions on race/ethnicity and current year in school. Finally, participants responded to the remaining dependent variables, self-esteem, satisfaction with life, psychological distress, and sexual identity development. Following the completion of the survey, participants were thanked for their time, asked to share the survey link with others if they had found it interesting, and then directed out of the survey.

Validity Check

In internet-based data collection, it is possible that participants can submit their completed survey more than once, and it is also susceptible to malicious or random responding. As recommended by Schmidt (1997), Smith and Leigh (1997), and Mohr and Rochlen (1999), duplicate surveys were identified using the date, time, and origin of submission or Internet protocol (IP) address. In the event that a duplicate survey appeared, one survey from the pair was randomly selected and eliminated from the dataset. LGB research may be especially susceptible to those who attempt to undermine the research due to intolerance about LGB issues. It is also possible that respondents may be inattentive to questions. Thus, three survey items were included to check for participant non-responsiveness and carelessness. Item I read "Please do not respond

to the following item,” item II “please select the box to the far left,” and item III “please select number 5 below.”

Plan of Analysis

Question I: Examining the psychometric structure of the PHIS. A two-step, factor analysis procedure was conducted in order to evaluate the factor structure of the Personal Internalized Heterosexism Scale (PIHS). First, a Principal Components Analyses (PCA) was conducted to evaluate the component structure of the PIHS. Prior to conducting the PCA, however, a Minimum Average Partial (MAP) analysis and Parallel Analysis were conducted in order to estimate the number of factors statistically indicated in the data, which is a more reliable method for determining the appropriate number of components in the data for a PCA than is relying solely on eigenvalues > 1.0 (O'Connor, 2000). Second, based on the results indicated by the MAP and Parallel analyses, a PCA with the number of components set a priori, was next conducted to evaluate component item loadings.

Question II: Relation of PHIS with Other Constructs. The next set of analyses evaluated the relationship between PIHS and other variables of interest. To examine the relationship between internalized heterosexism, psychological distress, life-satisfaction, self-esteem, and sexual identity development bivariate correlations were conducted. The significance, direction and magnitude of the correlations were evaluated.

Question III: Examining Group differences in Internalized Heterosexism. To address, the degree individuals with same-sex attraction who do not identify as LGB experience internalized heterosexism, a one-way between subjects Multiple Analysis of Variance (MANOVA) was conducted.

Question IV: Relation of Internalized Heterosexism, Same-Sex attraction, Sexual Orientation Identity. Finally, to address the relationship between internalized heterosexism, same-sex attraction, and sexual orientation identity, a logistic regression with mediation was utilized for each component of the PIHS to determine if internalized heterosexism had a mediating (statistical) effect on the relation between same-sex attraction (SSA) and sexual orientation identity (SOI).

Chapter IV

Results

The present study investigated the factor structure of a new scale to measure internalized heterosexism for participants with same-sex attraction, including those who identify as heterosexual, questioning or LGB. The following chapter describes the results of preliminary data analyses, exploratory factor analysis, Pearson's *r*-correlation, analysis of variance, and logistic regression organized around the study's major research questions and hypotheses.

Data cleaning

The data were from 254 individuals with same-sex attraction. Before statistical analyses were performed, participant responses to the three validity questions, along with their response patterns were examined to identify potential data issues that could affect statistical analyses. Three sources of information were used to evaluate and determine which participants, if any, should be removed from the analyses because their response patterns would unduly influence the analyses.

The first response pattern examined was the proportion of items on the PIHS, the main study variable that an individual completed. Because the PIHS is integral to the research questions of the study, those who provided responses to less than 12 of the 16 PHIS (75% or more) questions were identified in the final sample for removal. Eleven participants responded to fewer than 75% of the questions and were thus removed from all subsequent analyses. Thus, the remaining sample consisted of 243 participants.

The next analyses determined number of individuals who missed each of the three validity questions among the 243 participants. The questionnaire included three 'validity' items designed to detect if an individual read an item before giving a response (J. J. Mohr & Rochlen,

1999). For the three response-validity items, 2.4% (n = 6) missed item I, 3.1% (n = 8) missed item III, and an unusually high number of individuals missed the validity item II, 9.8% (n = 25). The unusually high number of individuals who missed the second item suggested there might been a problem with this item. Given that the item asks individuals to select a box located on a particular side of the screen, it was possible that an individual's particular computer or mobile device did not preserve the formatting for this item. For this item; however, this was not tested or confirmed. Therefore, if a participant missed either items I or III they were identified in the data set to be considered for removal in a final step following the next set of analyses.

Participants' response patterns to the 22-item sexual identity development scale were next evaluated to identify potential response biases that could affect statistical analyses. Participants who selected one response for more than 70% of the 22-item sexual identity development scale suggested they either did not adequately read the items or that the items did not adequately discriminate responses. The combination of excessive response pattern and missing a validity item suggested that the participant did not read items carefully and was removed. Of the 14 individuals, who provided an excessive response pattern, only one individual was identified as providing an excessive response pattern and missing validity item I or III. Thus the final sample consists of 242 participants.

Question I

Question I examined the factor structure of a new scale for measuring personal internalized heterosexism (PIHS). No hypotheses were made with regard to the factor structure of the scale, as previous internalized heterosexism scales include the personal element of IH as one subscale but do not necessarily focus on it exclusively (Mayfield, 2001; J. J. Mohr & Kendra, 2011; Szymanski & Chung, 2001).

Check for normality. Univariate and multivariate tests of skew and kurtosis were conducted on the 16 items of the PIHS. The D'Agostino and Pearson test $K^2 = 5.67, p > .05$ and the Jarque and Bera LM test $LM = 3.58, p > .05$ indicated that the PIHS demonstrated univariate and multivariate normality (DeCarlo, 1997).

Minimum Average Partial and Parallel Analysis. To evaluate the component structure of the 16 initial items from the Personal Internalized Heterosexism Scale a Minimum Average Partial (MAP) analysis and Parallel Analysis were first conducted in order to estimate the number of factors statistically indicated in the data (O'Connor, 2000). In the past, researchers have used rules of thumb such as evaluating eigenvalues-greater-than-one or evaluating scree plots to determine the number of components. The eigenvalues-greater-than-one rule typically overestimates and sometimes underestimates the number of components and does not always result in components that are reliable. In scree plots, sharp demarcations between eigenvalues do not always exist or there may be more than one demarcation point. The MAP and Parallel Analysis procedures are statistically based rather than rules of thumb and typically yield optimal solutions to the number of components problem (O'Connor, 2000).

To determine the number of components that should be retained in the MAP, the average squared partial correlations are partialled out from the original correlation matrix. These computations are conducted for k (the number of variables) minus one steps. The steps are then lined up, and the step number in the analyses that resulted in the lowest average squared partial correlation determines the number of components. Examination of Velicer's Average Squared Correlations the smallest average square correlation was at step 3 (3.19) indicating three components should be retained.

Factors or components are retained in parallel analysis as long as the i th eigenvalue from the actual data is greater than the i th eigenvalue from the random data. For the parallel analysis, 1,000 random datasets were created with 226 observations and 16 variables from the PIHS. The mean and 95th percentile of all eigenvalues generated from the random data sets were compared to the original, single sample eigenvalues. The parallel analysis indicated that two components should be retained. The eigenvalues for the data, Velicer's Average Squared Correlations, and the eigenvalues from the random data are presented in Table 3. It is not uncommon for both procedures to estimate a slightly different number of components, in which case the number of components is set to the higher value. These analyses indicated that the number of components in the PCA should be set to three, however, a two component solution will be taken into consideration. Despite, the two analyses yielding different component structures they are empirically derived and preferred over past methods based on rules of thumb.

Principal Components Analysis. Separate Principal Components Analyses (PCA) with orthogonal varimax rotation were performed on the 16 items from the PIHS scale on a sample of 226 responses: one with three components and one with two components because of results in previous section. The PCA had 226 responses rather than 242 due to listwise deletion. An orthogonal varimax rotation does not allow components to be correlated and is a variance maximizing procedure. The three component PCA accounted for 62.69% of the total variance, while the two component PCA accounted for 55.11% of the total variance. Next communalities for the components were examined, a communality for a variable is the variance accounted for by the components. Communalities tended to be high in both PCA's. With a cutoff of .45 for inclusion of a variable in interpretation of a factor, one item did not load on any component in both the three component and two component solution; the item was "I think I might be better

off dead than be attracted to the same-sex.” Loadings of variables on components, the communalities, and the percent of variance explained by each component are displayed in Tables 4 and 5.

Table 3.

<i>Eigenvalues for Minimum Average Partial and Parallel Analysis</i>			
Steps	Eigenvalues	Parallel Analysis	Minimum Average Partial
		Random Data Eigenvalue Means	Velicer's Average Squared Correlations
0			.13
1	5.65	1.49	.08
2	3.16	1.38	.04
3	1.22	1.30	.03
4	.91	1.23	.04
5	.80	1.17	.05
6	.68	1.11	.06
7	.61	1.06	.07
8	.51	1.01	.09
9	.48	.96	.12
10	.43	.91	.15
11	.37	.86	.22
12	.35	.81	.26
13	.32	.76	.36
14	.25	.71	.66
15	.19	.66	1.00
16	.07	.59	

Note. Random Data Eigenvalue Means based on 1,000 random datasets.

Confirmatory Factor Analysis (CFA). Although the original proposed analyses were to conduct only a EFA, ambiguity in the PCA results for the two versus three component solution led the decision to fit the two component models to the data in order to better ascertain which model better represents the constructs. A CFA within a Structural Equation Modeling framework was performed on both sets of extracted components for this purpose.

Table 4.

Three Component Loadings, Communalities (h^2), and Percent of Variance Explained for Principal Components Analysis with Varimax Rotation on PIHS Items

	F^1	F^2	F^3	h^2
Depressed	.82	.00	.13	.70
Dislike Myself	.81	.03	.16	.68
Angry	.78	.06	.09	.62
Choose Not to Be	.74	.36	-.02	.68
Wish I Were Not	.71	.34	-.01	.63
Anxious	.71	-.07	-.05	.51
Embarrassed	.70	.19	-.02	.53
Worthless	.67	-.09	.16	.48
Better Off Dead	.43	.02	.22	.24
Happy	.04	.91	.21	.88
Glad	.08	.91	.22	.88
Relaxed	.13	.75	.26	.64
Unconcerned	.14	.03	.85	.75
Not Resentful	.22	.40	.73	.75
Unashamed	.01	.38	.67	.59
Wouldn't Conceal	.00	.44	.55	.50
Percent of Variance	29.51	18.85	14.34	

Note. Factor loadings > .45 are in boldface.

The hypothesized models for the PHIS are depicted in Figures 1 and 2. In these figures, ellipses represent the latent variables with regression paths (loadings) to each of the indicators (items) of a scale, which are represented with rectangles. Four indices were used to evaluate the fit of the model including the comparative index (CFI), the root mean square error of approximation (RMSEA), Chi Square of Model Fit (Chi Square) and corresponding significance values (p). The Chi Square Test of Model Fit attempts to fit a model to the observed data, thus the lower the chi-square value, the better the model fit (Tabachnick & Fidell, 2007). As general guidelines, CFI values of .90 and above and RMSEA values of .08 or less are considered supportive of good model fit (Hu & Bentler, 1999).

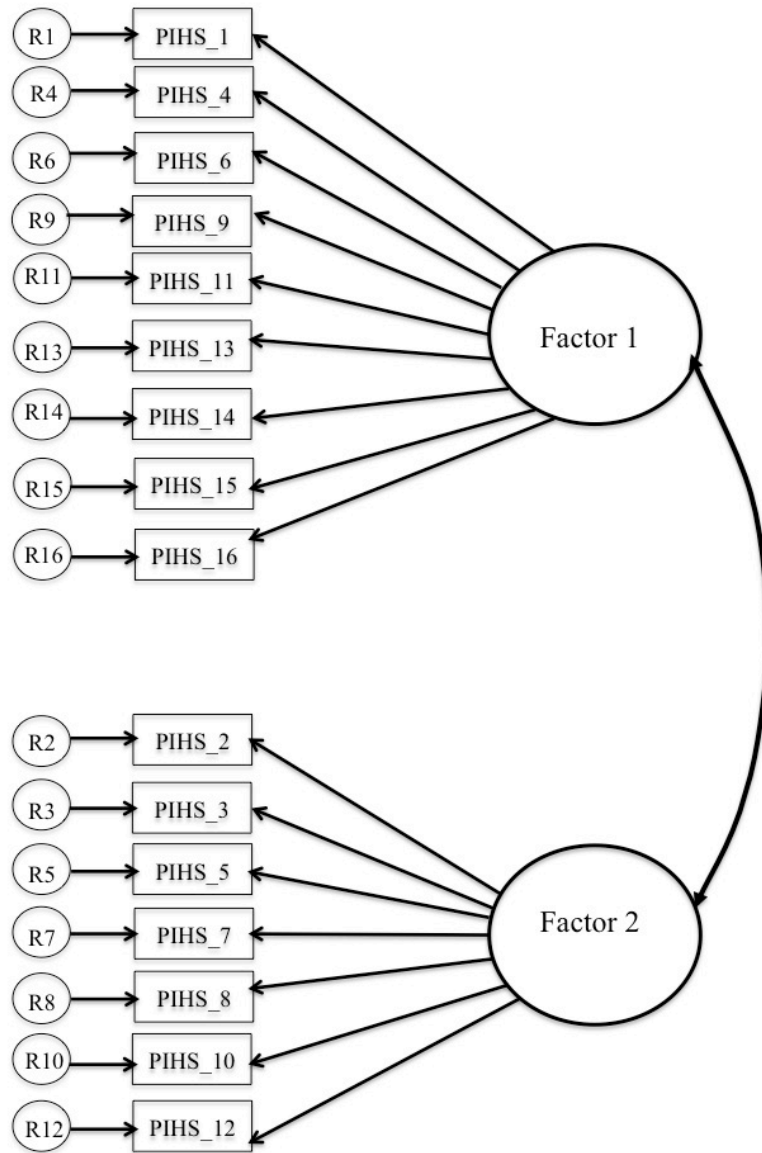
Table 5.

Two Component Loadings, Communalities (h^2), and Percent of Variance Explained for Principal Components Analysis with Varimax Rotation on PIHS Items

	F^1	F^1	h^2
Depressed	.83	.06	.69
Dislike Myself	.82	.10	.68
Angry	.78	.09	.62
Choose Not to Be	.74	.26	.62
Wish I Were Not	.71	.26	.58
Anxious	.71	-.10	.51
Embarrassed	.70	.13	.51
Worthless	.67	.01	.45
Better Off Dead	.44	.14	.21
Happy	.05	.85	.73
Glad	.08	.85	.73
Not Resentful	.24	.76	.63
Relaxed	.14	.75	.58
Unashamed	.03	.71	.50
Wouldn't Conceal	.02	.69	.47
Unconcerned	.16	.54	.32
Percent of Variance	29.76	25.32	

Weak support was found for the two-factor model, $\chi^2(103, N = 226) = 427.20, p < .001$, Robust CFI = .83, RMSEA = .12. Post hoc model modifications were performed in an attempt to develop a better fitting model. Items explained by less than 25% of the latent construct, squared multiple correlation (SMC), were considered a poor fit for the model. The squared multiple correlation for Item 16 (SMC = .17) and Item 7 (SMC = .08) indicated that these item should be removed from the model. The model was improved slightly by removing these item, $\chi^2(76, N = 226) = 301.65, p < .001$, Robust CFI = .87, RMSEA = .12. However, an adequate model fit could not be achieved using the two-factor selection in CFA.

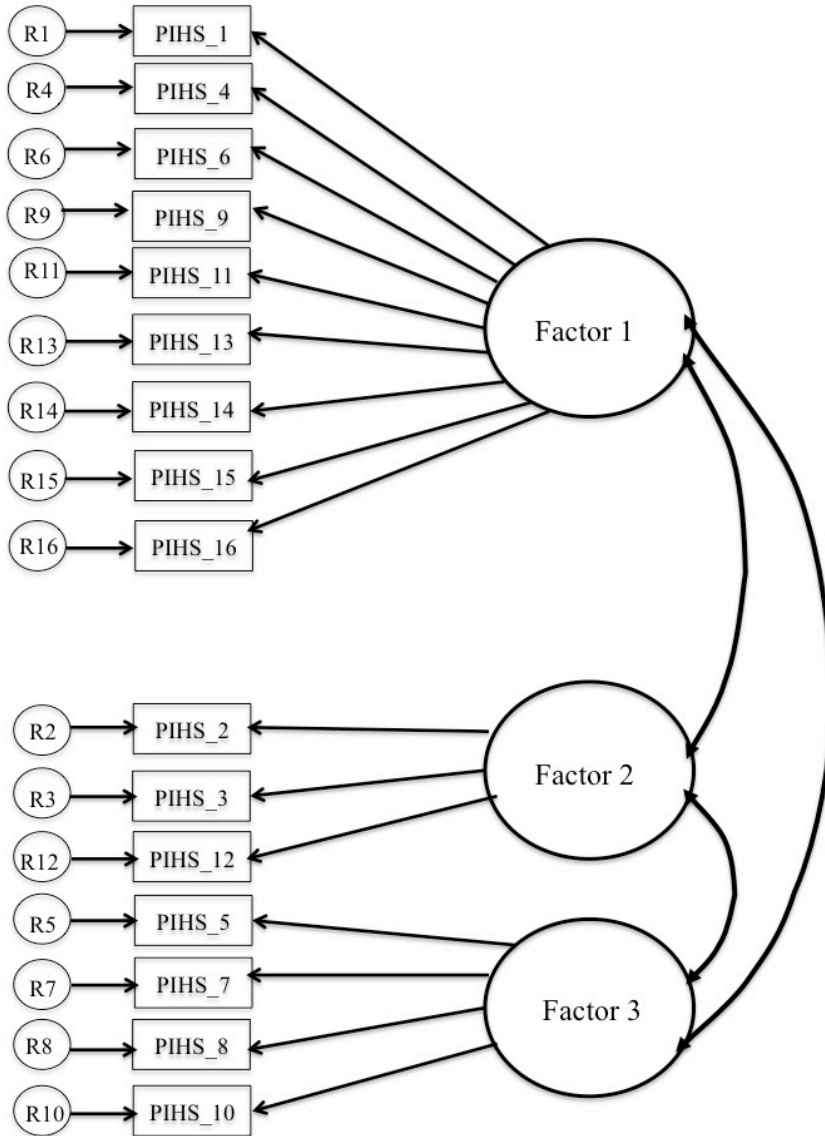
Figure 1.



Moderate support was found for the initial three-factor model, $\chi^2(101, N = 226) = 283.34, p < .001$, Robust CFI = .90, RMSEA = .09. Post-hoc model modifications were performed in an attempt to develop a better fitting model. The squared multiple correlations for Item 16 (SMC = .17) indicated that this item should be removed from the model. The model was improved slightly by removing this item, $\chi^2(87, N = 226) = 267.13, p < .001$, Robust CFI = .90, RMSEA = .10. Further examination of the model, indicated that the residuals of Item 14 and

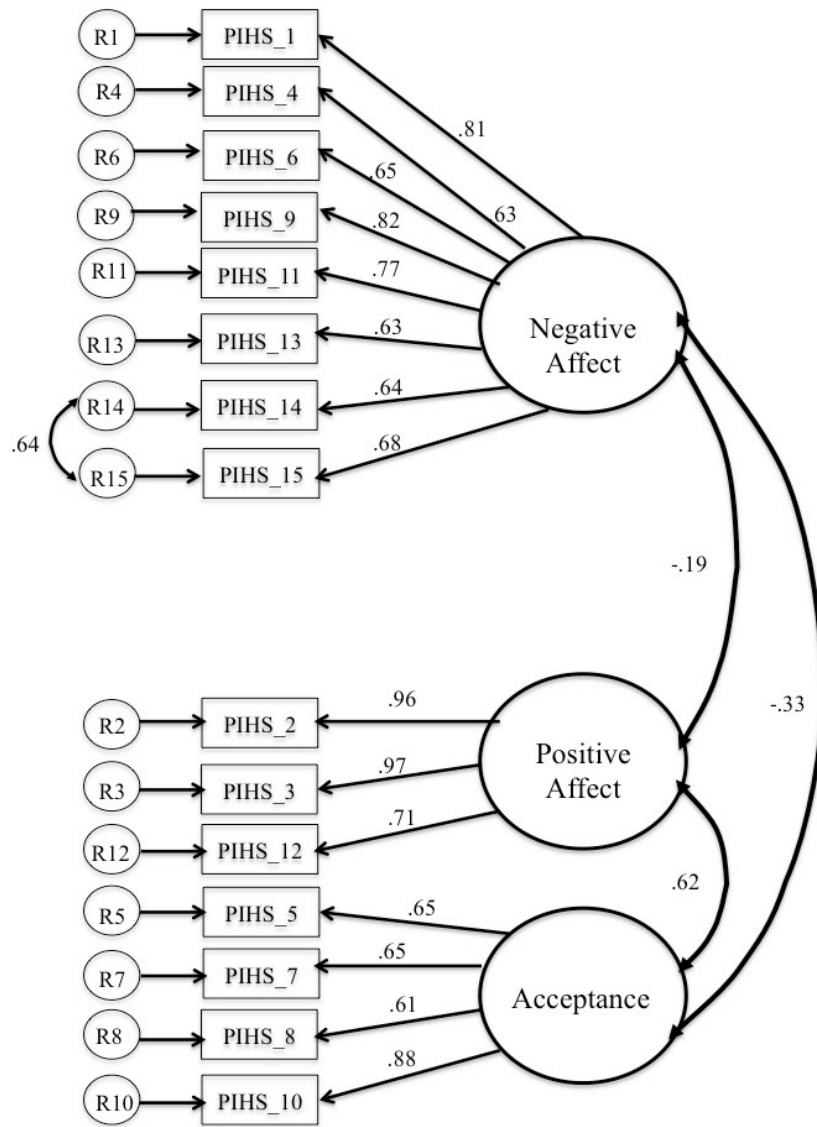
15 should covary. The final model fit the data well, $\chi^2(86, N = 216) = 158.56, \rho < .001$, Robust CFI = .96, RMSEA = .06. The final model with standardized coefficients is shown in Figure 3.

Figure 2.



Internal Consistency. To assess internal consistency, Cronbach's Alpha was calculated for all three factors. Cronbach's alpha for the three factors were as follows: Negative Affect $\alpha = .87$, Positive Affect $\alpha = .98$, Acceptance $\alpha = .79$.

Figure 3.



Question II

Question II examined the relationship between internalized heterosexism, psychological distress, life-satisfaction, self-esteem, and identity development.

Bivariate Correlations. A Pearson's r bivariate correlation was performed to examine the relations between the three constructs of the PIHS (negative affect, positive affect and acceptance), psychological distress (K10), life-satisfaction (SWLS), self-esteem (RSE) and the

MOSIEC sexual identity constructs (Exploration, Commitment, Synthesis and Moratorium). Bivariate correlations are displayed in Table 6. A significant bivariate correlation was found between the negative affect component and one's psychological distress ($r = .18, p < .001$) and sexual identity uncertainty ($r = .39, p < .001$). Higher negative affect was related to higher levels of psychological distress and sexual identity uncertainty. A significant bivariate correlation was also found between the negative affect component and, self-esteem (RSE; $r = -.13, p < .01$), satisfaction with life (SWLS; $r = -.17, p < .01$), sexual identity exploration ($r = -.21, p < .001$), commitment to sexual identity ($r = -.42, p < .001$), sexual identity synthesis ($r = -.47, p < .001$). Higher negative affect was related to lower levels of self-esteem, life satisfaction, sexual identity exploration, commitment to sexual identity and sexual identity synthesis. The magnitude of the correlations was small to moderate.

Significant correlations were also found between the positive affect component and sexual identity exploration ($r = .39, p < .001$), commitment to sexual identity ($r = .23, p < .001$), and sexual identity synthesis ($r = .24, p < .001$). Higher positive affect was related to higher levels of sexual identity exploration, commitment to sexual identity and sexual identity synthesis. The magnitude of the correlations was small to moderate.

Lastly, the acceptance component was correlated significantly with sexual identity exploration ($r = .36, p < .001$), commitment to sexual identity ($r = .15, p < .001$), and sexual identity synthesis, ($r = .24, p < .001$). Higher acceptance was related to higher levels of sexual identity exploration, commitment to sexual identity and sexual identity synthesis. The magnitude of the correlations was small to moderate.

Table 6.

Summary of Intercorrelations, Means, and Standard Deviations for Scores on PIHS, RSE, SWLS, K10, and MOSIEC Subscales

	1	2	3	4	5	6	7	8	9	10	M	SD
1. Negative Affect	-	-.24**	-.25**	-.13*	-.17*	.18**	-.21**	-.42**	-.47**	.39**	1.69	.89
2. Positive Affect		-	.57**	.12	-.11	-.09	.39**	.23**	.24**	-.06	2.60	1.64
3. Acceptance			-	.04	.01	-.07	.36**	.15**	.24**	-.03	3.74	1.60
4. RSE				-	.67**	-.64**	.06	.22**	.18**	-.11	19.91	5.86
5. SWLS					-	-.61**	.11	.24**	.23**	-.13	24.95	6.71
6. K10						-	-.02	-.21**	-.14**	.14**	21.95	6.66
7. Exploration							-	.20**	.32**	-.01	3.65	1.14
8. Commitment								-	.71**	-.58**	4.35	1.22
9. Synthesis									-	-.60**	4.51	1.07
10. Moratorium										-	1.95	1.35

Note. RSE = Rosenberg Self-Esteem; SWLS = Satisfaction with Life Scale; K10 = Kessler Psychological Distress Scale.

* $p < .01$

** $p < .001$

Question III

Question III examined group differences in internalized heterosexism. Before conducting a between-subjects MANOVA, a one-way ANOVA was conducted to determine if the five groups (lesbian, gay, bisexual, questioning, and heterosexual) significantly differed from one another on same-sex attraction. The omnibus test was significant $F(4, 219) = 131.70, p < .001$, indicating there were differences in same-sex attraction existed among the five groups. Tukey's post-hoc analysis indicated significant differences between all groups except for lesbian/gay individuals (see Table 7). Bisexual individuals reported significantly less same-sex attraction compared to both lesbian individuals (Tukey's $HSD = -1.38, p < .001$) and gay individuals (Tukey's $HSD = -1.45, p < .001$). Thus, lesbian/gay individuals were combined into one group in further analyses, while all other groups remained separate.

Table 7.

Same-Sex Attraction by Sexual Orientation

Sexual Orientation	Same-Sex Attraction		
	n	M (SD)	95% CI
Heterosexual	143	1.88 (.37)	[1.81, 1.94]
Questioning	16	2.35 (.66)	[2.00, 2.71]
Bisexual	39	2.77 (.66)	[2.56, 2.98]
Lesbian	9	4.15 (.38)	[3.86, 4.44]
Gay	17	4.22 (.74)	[3.83, 4.60]

Multiple Analysis of Variance. A one way between-subjects MANOVA was performed with negative affect, positive affect, and acceptance as the dependent variables and the four groups of sexual orientation identity (i.e., heterosexual, questioning, lesbian/gay, and bisexual) as the independent variable. Box's M was first conducted to test for homogeneity of covariances. Box's M was significant indicating that covariances were not equivalent across groups, Box's M $F(18, 14648) = 55.87, p < .001$. Unequal covariances suggested that Pillai's criterion should be

used to evaluate the MANOVA results as it is more robust in detecting results when the homogeneity of covariances is violated (Tabachnick & Fidell, 2007).

The omnibus test indicated there were differences on the dependent variables between groups, Pillai's Trace = .45, $F(9, 660) = 11.95, p < .001$, partial eta squared = .15. The test of between-subjects effects indicated there were differences between the four groups on all three dependent variables; negative affect component $F(3, 224) = 3.86, p < .05$, positive affect $F(3, 224) = 34.80, p < .001$, and acceptance $F(3, 224) = 8.43, p < .001$.

Tukey's post-hoc analyses were conducted to determine where significant differences between the four groups on the three PIHS factors. See Table 8 for the mean scores on the three factors of the PIHS by sexual orientation. These were evaluated at $p < .01$

Table 8.

Mean scores on Three Factors of PIHS by Sexual Orientation

PIHS Factor	Sexual Orientation			
	Heterosexual	Questioning	Bisexual	Lesbian/Gay
Negative Affect	1.58	2.34	1.77	1.72
Positive Affect	1.99	2.49	3.53	4.62
Acceptance	3.42	3.37	4.43	4.69

The questioning group reported a significantly higher mean on the negative affect component when compared to the heterosexual group (Tukey's $HSD = .76, p < .01$), but not compared to lesbian/gay or bisexual individuals. No other significant differences on negative affect existed between the groups.

The lesbian/gay group reported a significantly higher mean on positive affect compared to both the heterosexual group (Tukey's $HSD = 2.62, p < .001$), bisexual group (Tukey's $HSD = 1.08, p < .05$) and questioning group (Tukey's $HSD = 2.13, p < .001$). Additionally, the bisexual group reported a significantly higher mean on the positive affect component when compared to

both the heterosexual group (Tukey's $HSD = 1.54, p < .001$) and questioning group (Tukey's $HSD = 1.05, p < .05$). No differences existed between the questioning and heterosexual groups on the positive affect component.

The heterosexual group reported a significantly lower mean on the acceptance component when compared to both the bisexual group (Tukey's $HSD = -1.00, p < .01$) and lesbian/gay groups (Tukey's $HSD = -1.27, p < .01$). The questioning group also reported a significantly lower mean on the rejection component when compared to both the lesbian/gay group (Tukey's $HSD = -1.33, p < .05$). No differences existed between the heterosexual and questioning groups on the rejection components

Question IV

While, the previous analyses indicated there were differences in internalized heterosexism levels when sexual orientation identity groups were compared, the current analyses investigated whether those group differences affected the relationship between same-sex attraction and sexual orientation identity. A logistic regression with mediation was utilized for each component of the PIHS to determine if internalized heterosexism had a mediating effect on the relationship between same-sex attraction (SSA) and sexual orientation identity (SOI).

Confirming the same-sex attraction construct. A confirmatory factor analysis was conducted to determine if the three aspects of same-sex attraction (emotional, physical, and sexual) could be combined into one latent factor. Previous studies have used similar questions to examine sexual orientation but often have not confirmed whether the items reflect the same construct. Four indices were used to evaluate the fit of the model including the comparative index (CFI), the root mean square error of approximation (RMSEA), Chi Square of Model Fit (Chi Square) and corresponding significance values (p). The Chi Square Test of Model Fit

attempts to fit a model to the observed data, thus the lower the chi-square value, the better the model fit (Tabachnick & Fidell, 2007). As general guidelines, CFI values of .90 and above and RMSEA values of .08 or less are considered supportive of good model fit (Hu & Bentler, 1999). The model fit the data well $\chi^2(0, N = 595) = 0.00$, Robust CFI = 1.00, RMSEA = .48.

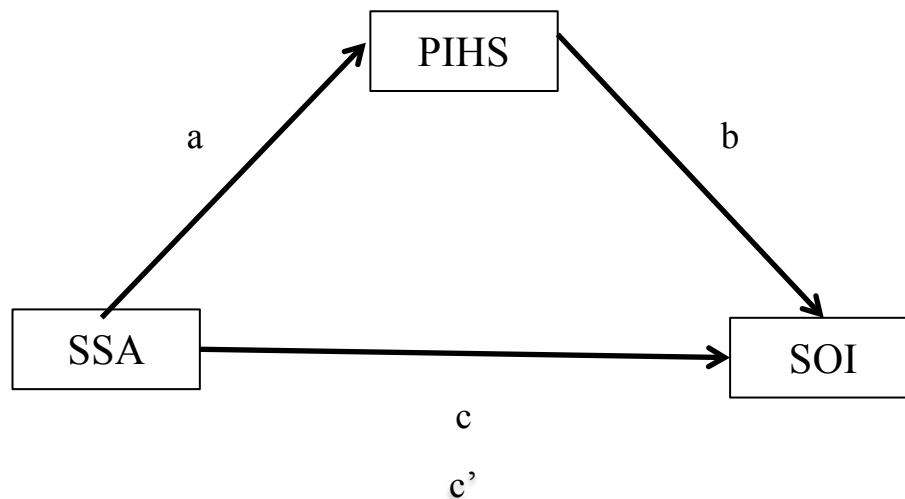
Logistic regression. Seventeen cases had to be removed due to missing values on a component of the PIHS. Comparisons between the seventeen invalid cases and the remaining 224 valid responses to the PIHS on could not be made due to the amount of missing data on non-PIHS variables (outness, self-esteem, psychological distress, and sexual identity development). The only other variable that all seventeen invalid responders answered was the same-sex attraction variable, for which there was no meaningful difference when compared to the valid cases.

Due to a statistically significant difference on same-sex attraction between lesbian/gay individuals and bisexual individuals, bisexual individuals were not included with lesbian/gay individuals. Data for 39 bisexual individuals, 26 lesbian/gay individuals, and 143 heterosexuals with same-sex attraction were available for analysis. Questioning individuals were excluded from the analyses due to inadequate number of respondents ($n = 16$).

For each logistic regression, step I examined the path *a* between same-sex attraction and the component of the PIHS (negative affect, positive affect, and acceptance). Step II examined path *c* between same sex-attraction (SSA) and sexual orientation identity (SOI). Step III examined path *b* between the component of the PIHS and sexual orientation identity as well as path *c'* the mediated path between same-sex attraction and sexual orientation identity. Figure 4 demonstrates the mediational model. Six logistic regressions were conducted where 0 = lesbian/gay and 1 = heterosexual for the first three logistic regressions and where 0 = bisexual

and 1 = heterosexual for the second set of logistic regressions. The criterion cutoff value for accurate classifying the two groups was set at .5 as the costs of mistakenly predicting a case were equivalent (Tabachnick & Fidell, 2007).

Figure 4.



Lesbian/gay and heterosexual.

Step I. Path *a* indicated that negative affect did not have a significant relationship to SSA. However, Positive Affect and Acceptance both indicated significant relationships with SSA, $F(1, 222) = 92.18, p < .001$ and $F(1, 222) = 14.65, p < .001$ respectively.

Step II. Path *c* indicated a significant relationship between SSA and SOI, $\beta = 4.14$, Wald test = 22.19, $df = 1, p < .001$.

Step III. Path *b* between all three factors and SOI were not significant and thus did not mediate the relationship between SSA and SOI when comparing heterosexual and lesbian/gay individuals.

Bisexual and heterosexual.

Step I. Path *a* was not statistically significant between negative affect and SSA. However, positive affect and acceptance both indicated significant relationships with SSA, $F(1, 222) = 92.18, p < .001$ and $F(1, 222) = 14.65, p < .001$ respectively.

Step II. Path *c* indicated a significant relationship between SSA and SOI, $\beta = -3.59$, Wald test = 36.36, $df = 1, p < .001$.

Step III. Path *b* was not significant between the negative affect component and SOI and thus did not mediate the relationship between SSA and SOI. However, path *b* indicated a significant relationship between positive affect and SOI, $\beta = -.48$, Wald test = 8.75, $df = 1, p < .01$. Thus, the positive affect component partially mediated the relationship between SSA and SOI. Path *c'* between SSA and SOI was significant after positive affect was in the model, $\beta = -3.44$, Wald test = 30.04, $df = 1, p < .001$ when comparing bisexual and heterosexual individuals. Path *b* also indicated a significant relationship between the acceptance component and SOI, $\beta = -.58$, Wald test = 8.28, $df = 1, p < .01$. Thus, acceptance partially mediated the relationship between SSA and SOI. Path *c'* between SSA and SOI was significant after acceptance was in the model, $\beta = -3.84$, Wald test = 34.64, $df = 1, p < .001$ when comparing bisexual and heterosexual individuals.

Chapter V

Discussion

This chapter includes a summary of the results and an interpretation of the findings related to each of the research questions and the body of existing literature on internalized heterosexism. The discussion includes an examination of what these findings may mean for applied psychology. Limitations of the current study are described and directions for future research.

Summary and Explanation of Findings

The current study was designed to investigate whether those who do not identify as LGB and express same-sex attraction experience internalized heterosexism. Next, the current study examined the relationship between internalized heterosexism, psychological distress, well-being, self-esteem and sexual identity development. Then, internalized heterosexism differences based on sexual orientation were explored. Lastly, the role that internalized heterosexism might play in creating incongruence between one's same-sex attraction and sexual orientation identity was examined.

Question I. Question I examined the factor structure of a new scale for measuring personal internalized heterosexism (PIHS). No hypotheses were made with regard to the factor structure of the scale, as previous internalized heterosexism scales include the personal element of IH as one subscale but do not necessarily focus on it exclusively (Mayfield, 2001; J. J. Mohr & Kendra, 2011; Szymanski & Chung, 2001). With a sample of individuals expressing same-sex attraction across five sexual orientation groups, the current analyses uncovered three interrelated but independent dimensions underlying the construct of internalized heterosexism: Negative Affect, Positive Affect, and Acceptance. A Confirmatory Factor Analysis also indicated that a

three-factor solution provided the best fit to the items on the PIHS. Additional support for the scales' validity was supported by correlations found in Question II.

Question II. Question II examined the relationship between internalized heterosexism, psychological distress, life-satisfaction, self-esteem, and identity development. It was hypothesized in Hypothesis II that a positive relationship would exist between internalized heterosexism and psychological distress. Consistent with Newcomb and Mustanski's meta-analysis (2010) of the relationship between IH and internalizing mental health problems, partial support was found for Hypothesis II as the negative affect component of internalized heterosexism was positively correlated with psychological distress. However, the positive affect and acceptance components of internalized heterosexism were not correlated with psychological distress.

It was hypothesized in Hypothesis III that a negative relationship would exist between internalized heterosexism, life-satisfaction, self-esteem and sexual identity development. Partial support was found for Hypothesis III as the negative affect component was negatively correlated with self-esteem and life satisfaction. Further support for Hypothesis III was also found as negative affect was negatively correlated to sexual identity exploration, sexual identity commitment, and sexual identity synthesis and positively correlated to sexual identity moratorium. Furthermore, positive affect and acceptance were positively correlated to sexual identity exploration, sexual identity commitment, and sexual identity synthesis. The positive correlation between negative affect and sexual identity moratorium and the non-significant correlation between positive affect and sexual identity moratorium provides further support that the two components are not two ends of the same spectrum and are independent components.

Question III. Question III examined group differences in internalized heterosexism. It was hypothesized in Hypothesis IV that participants who identified as heterosexual or questioning would report higher levels of internalized heterosexism than those who identified as LGB. Hypothesis IV was supported in that questioning individuals reported significantly higher levels of negative affect when compared to heterosexual individuals. Questioning individuals reported significantly less positive affect and less acceptance of their same-sex attraction when compared to lesbian/gay and bisexual individuals. Support for Hypothesis IV was also indicated as heterosexual individuals reported significantly less positive affect about their same-sex attraction and less acceptance compared to lesbian/gay and bisexual individuals. Lastly, an additional finding was that bisexual individuals also had significantly less positive affect about their same-sex attraction when compared to lesbian/gay individuals.

Question IV. Question IV examined the relationship between internalized heterosexism, same-sex attraction, and sexual orientation identity. It was hypothesized in Hypothesis IV that internalized heterosexism would mediate the relationship between same-sex attraction and sexual orientation identity. Partial support was found for Hypothesis V, the positive affect and acceptance components partially mediated the relationship between same-sex attraction and sexual orientation identity when examining bisexual and heterosexual individuals. Positive affect and acceptance were negatively correlated with same-sex attraction and in turn more predictive of heterosexual membership. In contrast to these supportive findings, it was found that internalized heterosexism did not mediate the relationship between same-sex attraction and sexual orientation identity when comparing lesbian/gay individuals to heterosexual individuals.

Conclusions and Implications

One guideline for practice established by the American Psychological Association (APA) is that psychologists strive to understand effects of stigma and its various manifestations in the lives of LGB (American Psychological Association, 2012). Internalized heterosexism is one of the ways stigma affects LGB clients and improving the measurement of this construct helps to improve understanding of how internalized heterosexism manifests itself in the lives of LGB individuals. The PIHS is a brief fifteen-item measure that can easily be utilized and scored by clinicians and researchers to examine IH in clients or research participants with same-sex attraction regardless of gender or sexual orientation identity. Furthermore, compared to other IH measures, the PIHS indicates that there are three dimensions of personal internalized heterosexism. The current study suggests that heterosexism can affect individuals with same-sex attraction not only by making them feel negatively about their own same-sex attraction but also by decreasing any positive feelings they would have about their same-sex attraction. Furthermore, personal internalized heterosexism seems to contain a third dimension, acceptance of one's same-sex attraction, or sexual orientation.

It has been suggested that part of being an LGB affirmative therapist is becoming more aware of heteronormative assumptions (McGeorge & Stone Carlson, 2011). While psychologists may be aware of the influence that heterosexism has on their LGB clients, they may not be aware of internalization of heterosexism and its' psychology impact. Similar to the results of other studies, the current study indicates that IH negatively affects a number of domains, such as psychological distress, life satisfaction and sexual identity development. Thus, measurement and awareness of internalized heterosexism will be important for clinicians in fully treating clients who present with concerns related to same-sex attraction.

While psychologists have been working to build an understanding of how internalized heterosexism affects individuals who identify as LGB, it is equally important to further explore how internalized heterosexism affects those who identify as heterosexual or questioning and also express same-sex attraction. The current study demonstrates that those who do identify as heterosexual or questioning and express same-sex attraction report higher levels of IH compared to those who are LGB and thus may be at even higher risk for negative consequences such as increased psychological distress, decreased life satisfaction and sexual identity development concerns. Interestingly, bisexual individuals also had significantly less positive affect about their same-sex attraction when compared to lesbian/gay individuals. One possible explanation for this finding is the additional minority stress of binegativity that bisexual individuals experience from both lesbian/gay individuals and heterosexual individuals (Herek, 2002; J. J. Mohr & Rochlen, 1999). While Balsam and Mohr (2007) did not find any differences between bisexual individuals and lesbian/gay individuals on internalized heterosexism, the current study suggests that differences between the groups may exist as the authors hypothesized.

Finally, some studies have shown inconsistencies between an individual's reported same-sex attraction, fantasies, and behaviors (all seeking to measure sexual orientation) and an individual's sexual orientation identity (Ellis et al., 2005; Moradi et al., 2010; Savin-Williams & Ream, 2007). The current study examined the role that internalized heterosexism might play in the inconsistency between sexual orientation and sexual orientation identity, and found that internalized heterosexism played a partially mediating role when comparing heterosexual and bisexual groups. Specifically, the results indicated that internalized heterosexism suppressed positive affect and acceptance of sexual orientation and made it more likely that an individual would identify as heterosexual rather than bisexual.

Due to a heavy reliance on recruiting LGB individuals from LGB-specific resources, many participants in internalized heterosexism research are open about their sexuality, more connected to the LGB community, and report very low levels of IH (Balsam & Mohr, 2007; Moradi, van den Berg, et al., 2009; Sheets & Mohr, 2009; Szymanski & Kashubeck-West, 2008). Consequently, little has been known about how internalized heterosexism may look for LGB participants recruited from the general population. By sampling from the general college population as opposed to LGB specific resources, the results of the current study likely generalize to a broader range of LGB individuals than previous studies. However, direct comparisons cannot be made between the current study and past studies given the variety of internalized heterosexism measures and the lack of data with regard to participant outness beyond study sampling method. Furthermore, the results of this study also include heterosexual and questioning individuals with same-sex attraction, populations that are often excluded from study results. The current study also addresses a gap in the research by examining internalized heterosexism in a university setting.

Limitations and Directions for Future Research

One of the major limitations to the current study is a causal effect cannot be determined by correlational/cross-sectional data. Thus, it is unclear whether internalized heterosexism causes higher levels of psychological distress, vice versa, or whether another factor is mediating the relationship between the two. Future longitudinal studies would contribute to the current line of research by further examining the relationship between internalized heterosexism and sexual orientation identity. Similar to other studies on internalized heterosexism, the sample consists of largely European American, well-educated individuals. Thus, the psychometric properties of the

current IH measure are unknown for racial/ethnic minority individuals, and LGB individuals of lower educational and socioeconomic statuses.

The study may not generalize outside of the college setting as college students are developmentally unstable in various aspects of their identity when compared to adults. Furthermore, it is important to note that the results of this study may not generalize to future times. As the type of heterosexism changes in society it is likely that internalized heterosexism will change as well. Some may argue that old-fashioned heterosexism may lessen in the future while modern heterosexism may increase, similar to the changes in racism and sexism in the United States. Old-fashioned heterosexism refers to the clear and blatant expression of dislike and negative attitudes toward LGB individuals (Cowan, Heiple, Marquez, Khatchadourian, & McNevin, 2005) while modern heterosexism is more subtle, such as the belief that LGB individuals make excessive demands for change and that discrimination toward LGB individuals is a thing of the past (Morrison & Morrison, 2003). The recent repeal of the U.S. military's Don't Ask Don't Tell policy and the legalization of same-sex marriage in nine states, may suggest that old-fashioned heterosexism is decreasing. Thus, future studies might examine experiences with old-fashioned and modern heterosexism in different age cohorts to determine if there are significant differences in their experience of internalized heterosexism. Lastly, the current study did not have a large enough sample size to examine the interaction between gender and sexual orientation in relation to internalized heterosexism. Future studies with larger sample sizes might examine the relationship between gender, sexual orientation and internalized heterosexism as researchers recommended initially separating out sexual orientation and gender so that difference between these groups are not hidden in subsequent analyses (Moradi, Mohr, et al., 2009).

Finally, future studies might measure both heterosexism and internalized heterosexism for individuals who identify as heterosexual or questioning with same-sex attraction. Morales Knight and Hope (2012) study of 287 university students examined differences between those who identified as heterosexual compared to those who identified as heterosexual and also indicated any attraction, fantasy or sexual behavior with the same sex ($n = 87$). Results indicated that those who identified as heterosexual with same-sex attraction had more positive attitudes toward LGB individuals, more support toward LGBT-positive policies, and endorsed less scriptural literalism when compared to heterosexual participants without same-sex attraction. These findings are particularly interesting as they found that heterosexual individuals with same-sex attraction had more positive attitudes toward LGB individuals yet the current study's results suggest that these same individuals, heterosexuals with same-sex attraction, have higher levels of internalized heterosexism compared to LGB individuals.

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Appendix A

Instruments

Demographic Questionnaire

1. Please indicate your current age (ex: 18).
2. Are you currently enrolled in a university?
 - a. Yes
 - b. No
3. What university are you currently enrolled in?
4. Please indicate your sex.
 - a. Male
 - b. Female
5. What would you consider your sexual orientation?

(The following options in this survey are a matter of convenience, and I ask for your understanding if the options provided do not completely capture your sexual identity. I also recognize that you may not be completely decided on your answer or you may be decided but others may not be aware of your sexual identity. Questions later in the survey will be provided to further allow you to indicate the degree of (un)certainly you feel about the answer you choose here.)

- a. Questioning
 - b. Bisexual
 - c. Heterosexual
 - d. Lesbian
 - e. Gay
6. Please indicate your race/ethnicity.
 - a. Caucasian/European American
 - b. Black/African American
 - c. Latina(o)/Hispanic
 - d. Asian American
 - e. Native American/Pacific Islander

7. What is your current year in school?

- a. Freshman
- b. Sophomore
- c. Junior
- d. Senior
- e. Graduate Student

Personal Internalized Heterosexism Scale

Please respond to the items below using the following response set:

- 1—NEVER
- 2—ONCE IN A WHILE (less than 10% of the time);
- 3—SOMETIMES (10–25% of the time);
- 4 -- A LOT (26–49% of the time)
- 5—MOST OF THE TIME (50–70% of the time)
- 6—ALMOST ALL OF THE TIME (more than 70% of the time)

- 1. When I think of my same-sex attraction, I feel depressed.
- 2. I feel happy when I think about my attraction to the same-sex.
- 3. When I think about being attracted to the same-sex, I feel glad.
- 4. Because of my attraction to the same-sex I feel worthless.
- 5. I feel unashamed of my same-sex attraction.
- 6. I feel that my same-sex attraction is embarrassing.
- 7. My same-sex attraction does not concern me.
- 8. If others accepted my same-sex attraction, I would not try to conceal it.
- 9. I dislike myself for being attracted to the same-sex.
- 10. I do not resent being attracted to the same-sex.
- 11. I get angry when I think about being attracted to the same-sex.
- 12. When I think of my same-sex attraction, I feel relaxed.
- 13. Because of my attraction to the same-sex I feel anxious.
- 14. I wish I were not attracted to the same-sex.
- 15. If it were possible, I would not be attracted to the same-sex.
- 16. I think I might be better off dead than be attracted to the same-sex.

Negative Affect is composed of a mean score of items 1, 4, 6, 9, 11, 13, 14 and 15. Positive Affect is composed of a mean score of items 2, 3, and 12. Acceptance is composed of a mean score on items 5, 7, 8, and 10. Item 16 was excluded from the final scale.

Same-Sex Attraction Questionnaire

1. To whom have you felt EMOTIONALLY attracted?
 - a. Only to females never to males
 - b. Mostly to females, at least once to a male
 - c. About equally to females and to males
 - d. Mostly to males, and at least once to a female
 - e. Only to males, never to females
2. To whom have you felt PHYSICALLY attracted, even if you did not take any action based on feeling attracted?
 - a. Only to females never to males
 - b. Mostly to females, at least once to a male
 - c. About equally to females and to males
 - d. Mostly to males, and at least once to a female
 - e. Only to males, never to females
3. To whom have you felt SEXUALLY attracted, even if you did not take any action based on feeling attracted?
 - a. Only to females never to males
 - b. Mostly to females, at least once to a male
 - c. About equally to females and to males
 - d. Mostly to males, and at least once to a female
 - e. Only to males, never to females

Item responses were reversed for females so that 1 is (*only to males, never to females*) and 5 is (*only to females, never to males*).

Outness Inventory (J. Mohr & Fassinger, 2000)

Use the following rating scale to indicate how open you are about your sexual orientation to the people listed below. Try to respond to all of the items, but leave items blank if they do not apply to you.

1. mother
2. father
3. siblings (sisters, brothers)
4. extended family/relatives
5. my NEW straight friends
6. my work supervisor(s)
7. members of my religious community (e.g. church, temple)
8. leaders of my religious community (e.g. church, temple)
9. strangers, new acquaintances
10. my OLD heterosexual friends

Items are rated on a 7-point scale where 1 is “person definitely does NOT know about your sexual orientation status” and 7 is “person definitely knows about your sexual orientation status, and it is OPENLY talked about.” Additionally, participants have the option of responding where 0 is “not applicable to your situation; there is no such person or group of people in your life.”

The *Out to Family* subscale is composed of an average of items 1, 2, 3, and 4, *Out to World* an average of items 5, 6, 7, and 10, *Out to Religion* an average of items 8 and 9, and lastly *Overall Outness* is composed of an average of the above three subscales.

Kessler Psychological Distress Scale (Kessler et al., 2002)

These questions concern how you have been feeling over the past 30 days. Please select a circle below each question that best represents how you have been.

1. During the last 30 days, about how often did you feel tired out for no good reason?
2. During the last 30 days, about how often did you feel nervous?
3. During the last 30 days, about how often did you feel so nervous that nothing could calm you down?
4. During the last 30 days, about how often did you feel hopeless?
5. During the last 30 days, about how often did you feel restless or fidgety?
6. During the last 30 days, about how often did you feel so restless you could not sit still?
7. During the last 30 days, about how often did you feel depressed?
8. During the last 30 days, about how often did you feel that everything was an effort?
9. During the last 30 days, about how often did you feel so sad that nothing could cheer you up?
10. During the last 30 days, about how often did you feel worthless?

Items are rated on a 5-point scale where 1 is “none of the time” and 5 is “all of the time.” The total score is computed by summing all items.

Satisfaction with Life Scale (Diener et al., 1985)

Below are five statements that you may agree or disagree with. Using the 1 - 7 scale below, indicate your agreement with each item by selecting the appropriate circle on the line preceding that item. Please be open and honest in your responding.

1. In most ways my life is close to my ideal.
2. The conditions of my life are excellent.
3. I am satisfied with my life.
4. So far I have gotten the important things I want in life.
5. If I could live my life over, I would change almost nothing.

Items are rated on a 7-point scale where 1 is “strongly disagree” and 7 is “strongly agree.” The total score is computed by summing all items.

Rosenberg Self-Esteem Scale (Rosenberg, 1965)

Below is a list of statements dealing with your general feelings about yourself. Please mark the box that describes your current level of agreement with the statement.

1. On the whole, I am satisfied with myself.
2. At times, I think I am no good at all.*
3. I feel that I have a number of good qualities.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.*
6. I certainly feel useless at times.*
7. I feel that I'm a person of worth, at least on an equal plane with others.
8. I wish I could have more respect for myself.*
9. All in all, I am inclined to feel that I am a failure.*
10. I take a positive attitude toward myself.

Items are rated on a 4-point scale where 0 is "strongly disagree" and 3 is "strongly agree." Items 2, 5, 6, 8, and 9 are reverse-scored items. The total score is computed by summing all items.

Measure of Sexual Identity Exploration and Commitment (Worthington et al., 2008)

Please read the following definitions before completing the following scale:

Sexual needs are defined as an internal, subjective experience of instinct, desire, appetite, biological necessity, impulses, interest and/or libido with respect to sex.

Sexual values are defined as moral evaluations, judgments and/or standards about what is appropriate, acceptable, desirable, and innate sexual behavior.

Sexual activities are defined as behavior that a person might engage in relating to or based on sexual attraction, sexual arousal, sexual gratification, or reproduction (e.g., fantasy to holding hands to kissing to sexual intercourse).

Modes of sexual expression are defined as any form of communication (verbal or nonverbal) or direct and indirect signals that a person might use to convey her or his sexuality (e.g. flirting, eye contact, touching, vocal quality, compliments, suggestive body movements or posture).

Sexual orientation is defined as an enduring emotional, romantic, sexual, or affectional attraction to other persons that ranges from exclusive heterosexuality to exclusive homosexuality and includes various forms of bisexuality.

1. My sexual orientation is clear to me.*
2. I went through a period in my life when I was trying to determine my sexual needs.
3. I am actively trying to learn more about my own sexual needs.
4. My sexual values are consistent with all of the other aspects of my sexuality.
5. I am open to experiment with new types of sexual activities in the future.
6. I am actively trying new ways to express myself sexually.
7. My understanding of my sexual needs coincides with my overall sense of sexual self.
8. I went through a period in my life when I was trying different forms of sexual expression.
9. My sexual values will always be open to exploration.
10. I know what my preferences are for expressing myself sexually.
11. I have a clear sense of the types of sexual activities I prefer.
12. I am actively experimenting with sexual activities that are new to me.
13. The ways I express myself sexually are consistent with all of the other aspects of my sexuality.
14. I sometimes feel uncertain about my sexual orientation.
15. I do not know how to express myself sexually.*
16. I have never clearly identified what my sexual values are.*
17. The sexual activities I prefer are compatible with all of the other aspects of my sexuality.
18. I have never clearly identified what my sexual needs are.*
19. I can see myself trying new ways of expressing myself sexually in the future.
20. I have a firm sense of what my sexual needs are.
21. My sexual orientation is not clear to me.
22. My sexual orientation is compatible with all of the other aspects of my sexuality.

Items are rated on a 5-point scale where 1 is “very uncharacteristic of me” and 5 is “very characteristic of me.” The Exploration subscale is comprised of items 2, 3, 5, 6, 8, 9, 12 and 19, and the Commitment subscale is comprised of items 10, 11, 15, 16, 18, and 20. The Synthesis subscale is comprised of items 4, 7, 13, 17, and 22. The Sexual Orientation Identity Uncertainty subscale is comprised of items 1, 14, and 21. Items 1, 15, 16, and 18 are reverse-scored. Subscales are obtained by averaging the items for each participant.

Appendix B

Information Statement

Statement for Prospective Participants

Dear Prospective Research Participant:

The current study is designed to investigate how attraction and sexual orientation relate to one another. We are seeking participants who are **18 years or older and currently students at a university (may be undergraduate, graduate, etc.)** to respond to questions with regard to their experiences of attraction (physical, emotional, and sexual). Study participation will entail your completion of some questionnaires. The survey is expected to take approximately **10-15 minutes** to complete.

This study has been approved by the University of Kansas Institutional Review Board (HSCL # 20459) and the Truman State University Institutional Review Board. The Department of Psychology and Research in Education at the University of Kansas supports the practice of protection for human subjects participating in research. The following information is provided for you to decide whether you wish to participate in the present study. You should be aware that even if you agree to participate, you are free to withdraw at any time without penalty. Completion of the survey indicates your willingness to participate in this project and that you are at least 18 years old.

The content of the questionnaires should cause no more discomfort than you would experience in your everyday life. Although participation may not benefit you directly, we believe that the information obtained from this study will help us gain a better understanding of how sexual attraction and sexual orientation relate to each other. Your participation is solicited, but is strictly voluntary. Your name or individual responses will NOT be associated in any way with the research findings. It is possible, however, with internet communications, that through intent or accident someone other than the intended recipient may see your response. **To begin the study, please click NEXT at the bottom right corner of this information statement.**

If you would like additional information concerning this study before or after it is completed, please feel free to contact us at our contact information listed below. Lastly, if you have any additional questions about your rights as a research participant, you may call (785) 864-7429, write the Human Subjects Committee Lawrence Campus (HSCL), University of Kansas, 2385 Irving Hill Road, Lawrence, Kansas 66045-7563, or email irb@ku.edu.

With sincere thanks,

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